U.S. Department
of Transportation

Federal Aviation Administration

RUNWAY LENGTH REQUIREMENTS FOR AIRPORT DESIGN

AC-150/5325-4A
1/29/90

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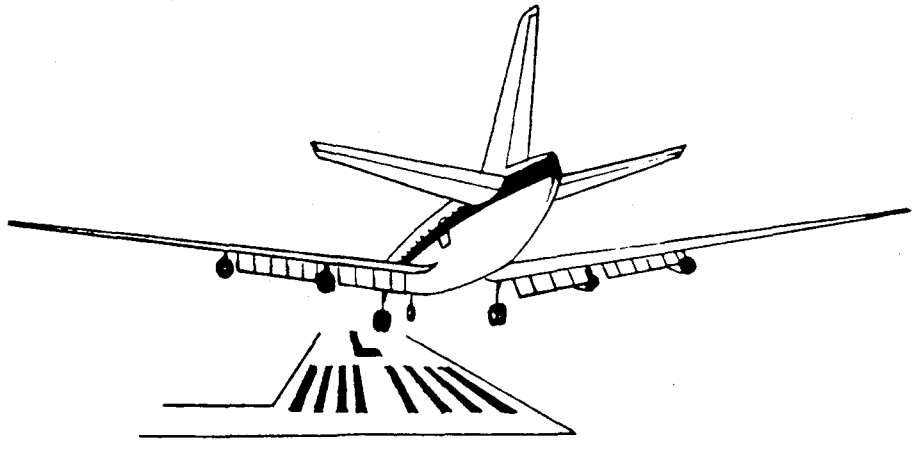

U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject: RUNWAY LENGTH REQUIREMENTS FOR AIRPORT DESIGN

Date: 1/29/90
Initiated by: AAS-110

AC No: 150/5325-4A
Change:

1. PURPOSE. This advisory circular (AC) provides design standards and guidelines for determining recommended runway lengths.

2. CANCELLATIONS. This advisory circular cancels the following documents:

a. AC 150/5325-3, Background Information on the Aircraft Performance Curves for Large Airplanes, dated November 14, 1967.

b. AC 150/5325-4, Runway Length Requirements for Airport Design, dated September 27, 1978.

3. APPLICATION. The standards and guidelines contained in this advisory circular are recommended by the Federal Aviation Administration (FAA) for use in the design of civil airports. For airport projects receiving Federal grant-in-aid assistance, the use of these standards is mandatory.

Leonard E. Mudd
Director, Office of Airport Safety and Standards

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CHAPTER 1. INTRODUCTION

1. BACKGROUND. Today's fleet of airplanes requires a wide range of runway lengths under a variety of environmental conditions. A few of the more obvious conditions which will alter the recommended runway lengths are airport elevation, aircraft operating weight, and runway surface conditions. This advisory circular (AC) provides guidelines for determining the appropriate length for a runway or runways. The aircraft performance data contained in this AC are for the design of airport runways and are not a substitute for calculations required by airplane operating rules.

2. PRIMARY RUNWAYS. The recommended length for the primary runway is determined by considering either the family of airplanes having similar performance characteristics or a specific airplane needing the longest runway. In either case, the choice should be based on airplanes that are forecasted to use the runway on a regular basis. A regular basis is considered to be at least 250 operations a year. Under very unusual circumstances, adjustments to this minimum frequency of operations may be made after considering the circumstances, e.g., seasonal traffic variations or the special needs of isolated or remote areas.

a. Airplanes Up To and Including 60,000 Pounds (27 200 kg). When the maximum gross weight of airplanes forecasted to use the runway is 60,000 pounds (27 200 kg) or less, the runway length should be designed for a family of airplanes. Chapter 2 contains guidelines for determining the appropriate runway length for a family or group of airplanes.

b. Airplanes over 60,000 Pounds (27 200 kg). When the maximum gross weight of airplanes forecasted to use the runway is over 60,000 pounds (27 200 kg), the runway length is normally designed for a specific airplane. The recommended runway length for a specific airplane is a function of that airplane's landing and takeoff operating weights, the wing flap settings, the airport elevation and temperature, the runway surface conditions, and the maximum difference in runway centerline elevations. Chapter 2 contains the guidelines for determining the approximate length for the family or group of airplanes over 60,000 pounds (27 200 kg). Chapter 3 contains the guidelines for determining the appropriate runway length for specific airplanes.

3. OTHER RUNWAYS.

a. Crosswind Runways. A crosswind runway should have a length of at least 80 percent of the primary runway length.

b. Parallel Runways. Parallel runways should have a length based on the airplanes which will use the runways. Parallel runways should be approximately equal in length.

4. RUNWAY LENGTH BASED ON DECLARED DISTANCE CONCEPT. Runways are normally fully usable in both directions. Furthermore, they normally have clear approaches and departures to each runway end and do not have clearways or stopways. The "declared distance" concept outlined in AC 150/5300-13, Airport Design, is the design alternative for runways not fully usable for landing and takeoff in both directions, where approaches or departures to either runway end are obstructed, or a clearway or stopway is provided. Declared distances to be provided are:

a. Landing Runway Length. Landing distance available (LDA) should be at least equal to the landing runway length obtained from the design curves or tables.

b. Takeoff Runway Length.

(1) Reciprocating-Powered Airplanes. Takeoff run available (TORA), accelerate-stop distance available (ASDA), and takeoff distance available (TODA) should be at least equal to the takeoff runway length obtained from the design curves or tables.

(2) Turbine-Powered Airplanes.

(a) TORA and ASDA may be up to 800 feet (240 m) shorter than the takeoff runway length obtained from the design curves or tables.

(b) TODA should be at least:

1 200 feet (60 m) longer than the takeoff runway length obtained from the design curves when ASDA is less than the takeoff runway length obtained from the design curves or tables, or

2 equal to the takeoff runway length obtained from the design curves when ASDA is equal to or greater than the takeoff runway length obtained from the design curves or tables.

5. COMPUTER PROGRAM. The Airport Design software cited in appendix 11 of AC 150/5300-13, Airport Design, may be used to quickly determine the recommended runway length for airport design. The nearest FAA Airports office can provide more details on the availability of the airport design software.

CHAPTER 2. RUNWAY LENGTH BASED ON AIRPLANE GROUPINGS

6. DESIGN GUIDELINES.

a. Approach Speeds of less than 30 Knots. Airplanes with approach speeds less than 30 knots are considered short takeoff and landing or ultra-light aircraft. The recommended runway length is 300 feet (90 m) at sea level. Runway lengths above sea level should be increased at the rate of 30 feet (9 m) per 1,000 feet (300 m) of elevation.

b. Approach Speeds of 30 Knots or more but less than 50 Knots. The recommended runway length is 800 feet (240 m) at sea level. Runway lengths above sea level should be increased at the rate of 80 feet (24 m) per 1,000 feet (300 m) of elevation.

c. Approach Speeds of 50 Knots or more and Maximum Certificated Takeoff Weight of 12,500 Pounds (5 670 kg) or less. Figures 2-1 and 2-2 provide the recommended runway length based on the seating capacity. These runway lengths are based on airplanes without modifications. At airports above 5,000 feet (1 524 m), the airplanes are normally modified for higher altitudes to reduce their runway length requirements. Therefore, at sites above 5,000 feet the requirements for modified airplanes should be examined for less runway length.

d. All Airplanes with Maximum Certificated Takeoff Weight of more than 12,500 Pounds (5 670 kg) and up to and including 60,000 Pounds (27 200 kg). Figures 2-3 and 2-4 are subdivided by the percentage of this family (75 or 100 percent) and the percentage of useful load (60 or 90 percent). Useful load is the difference between the airplane's maximum certificated takeoff weight and its operating empty weight.1/

(1) Examples. Airplanes that make up 75 percent of the fleet are:

Manufacturer	Model
Gates Lear jet Corporation	Lear jet (20, 30, 50 series)
Rockwell International	Sabreliner (40, 60, 75, 80 series)
Cessna Aircraft	Citation (II, III)
Dassault - Breguet	Fan Jet Falcon (10, 20, 50 series)
British Aerospace Aircraft Corporation	HS-125 (400, 600, 700 series)
Israel Aircraft Industries	1124 Westwind

(2) Adjustments. The runway lengths obtained from figures 2-3 and 2-4 may require an increase for the maximum difference of runway centerline elevations or wet and slippery runway surface conditions. These increases are mutually exclusive since the first applies to takeoffs and the latter to landings. When runway length increases are needed for both conditions, only the larger of the two applies.

1/ The operating weight empty typically includes the airplane's empty weight, crew, crew's baggage and supplies, removable passenger service equipment and emergency equipment, engine oil, and unusable fuel. Thus, passengers and baggage, cargo, and usable fuel comprise the useful load.

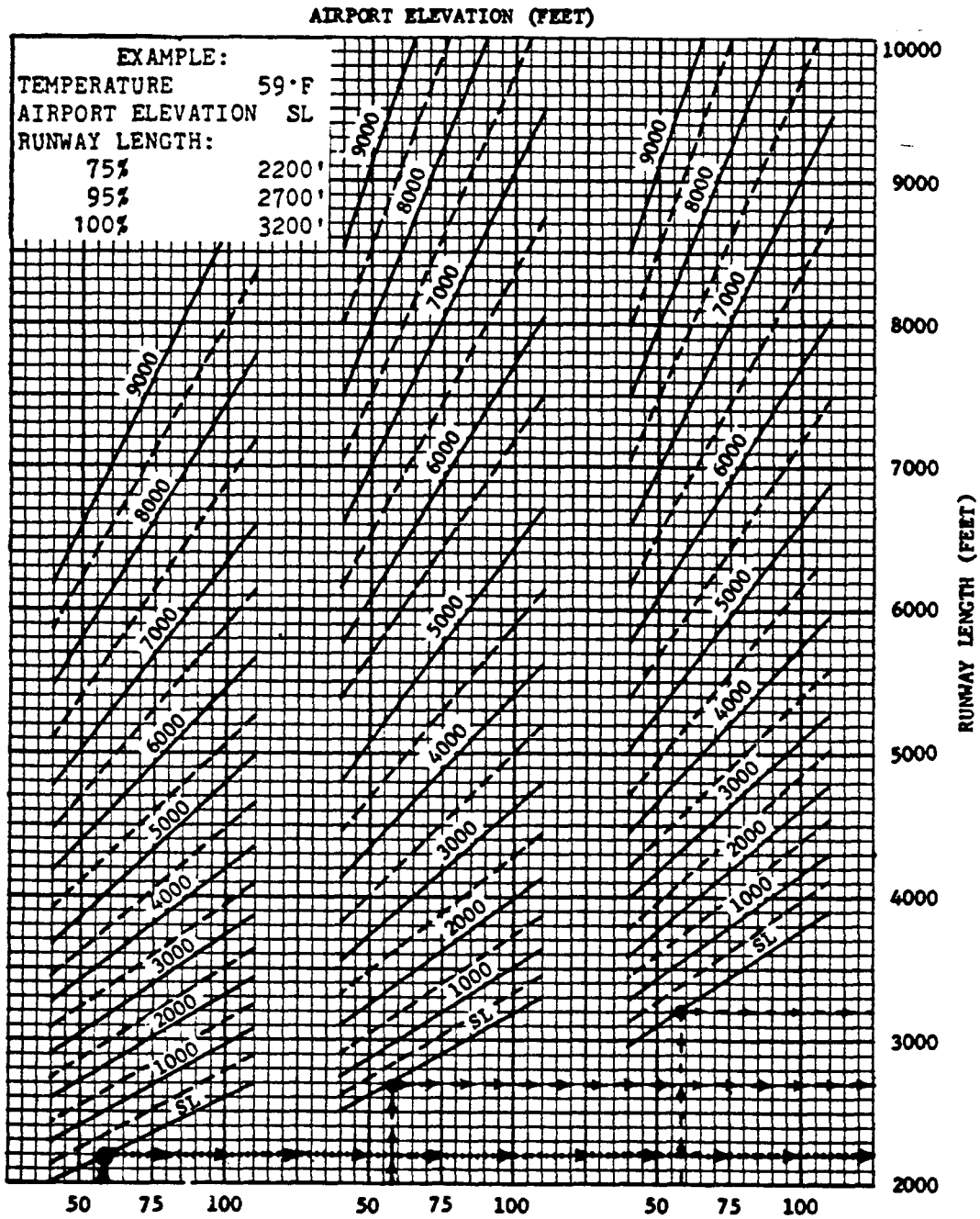


Figure 2-1. Runway length to serve small airplanes having less than 10 passenger seats

REPRESENTATIVE AIRPLANES		
Beech	B80	Queen Air
Beech	E90	King Air
Beech	B99	Airliner
Beech	A100	King Air
Britten-Norman	Mark III-I Trilander	
Mitsubishi	MU-2L	
Swearigen	Merlin III-A	
Swearigen	Merlin IV-A	
Swearigen	Metro II	

RUNWAY LENGTH CURVES

EXAMPLE:

TEMPERATURE	59°F (15°C)
AIRPORT ELEVATION	SEA LEVEL
GEN. UTILITY	3700' (1 128 m)

Note: For airport elevations above 3000 feet (914 m) use the 100% curve, figure 3.

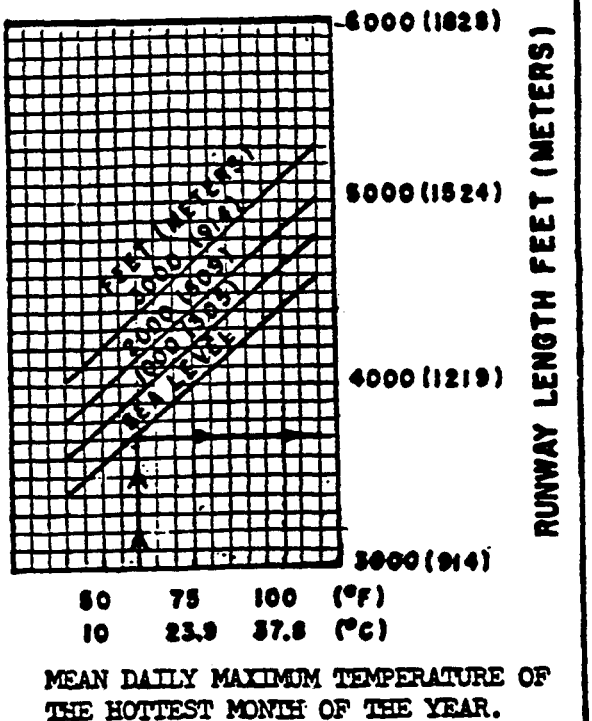


Figure 2-2. Runway length to serve small airplanes having 10 passenger seats or more

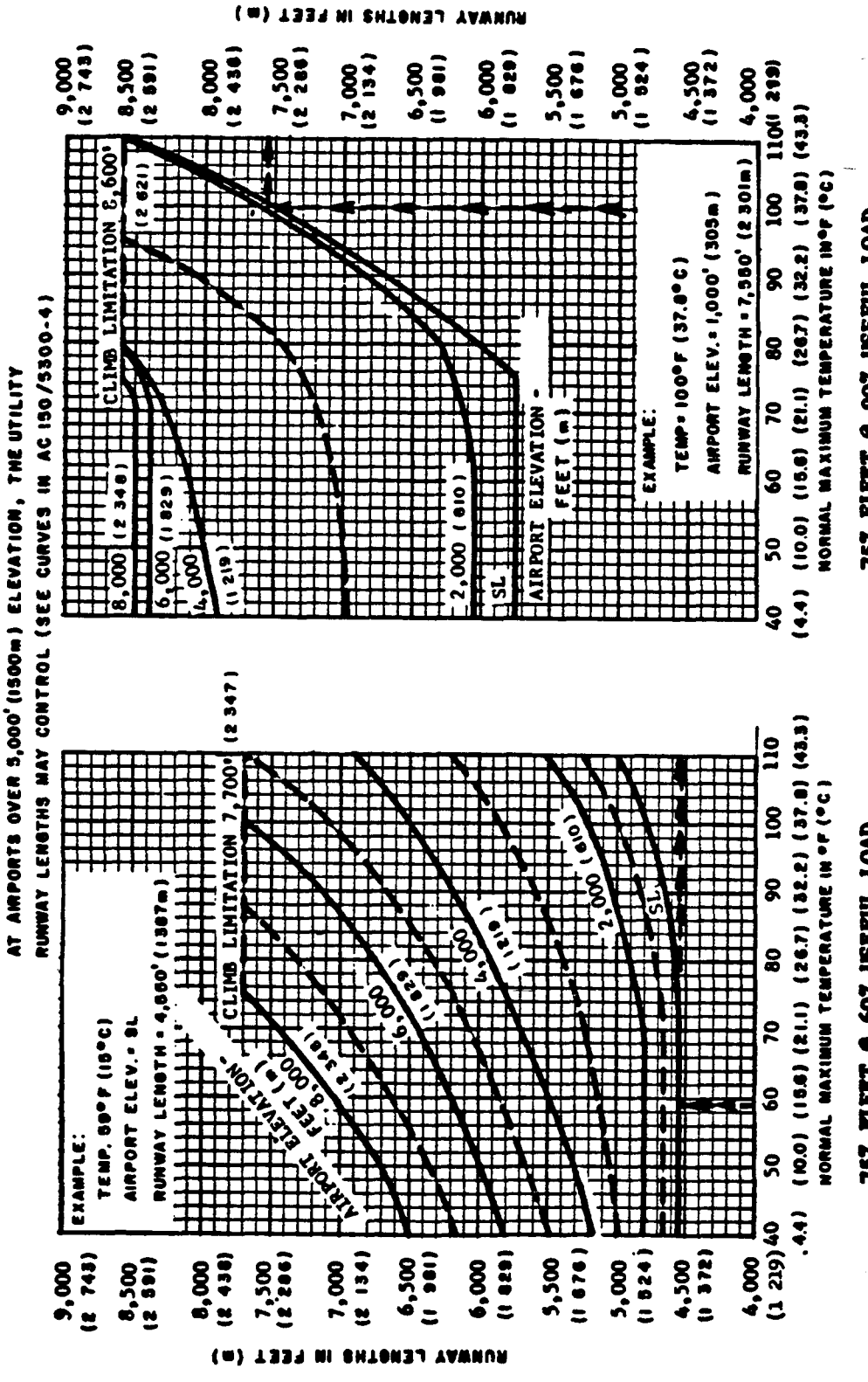


Figure 2-3. Runway length to serve 75% of large airplanes of 60,000 pounds (27 200 kg) or less

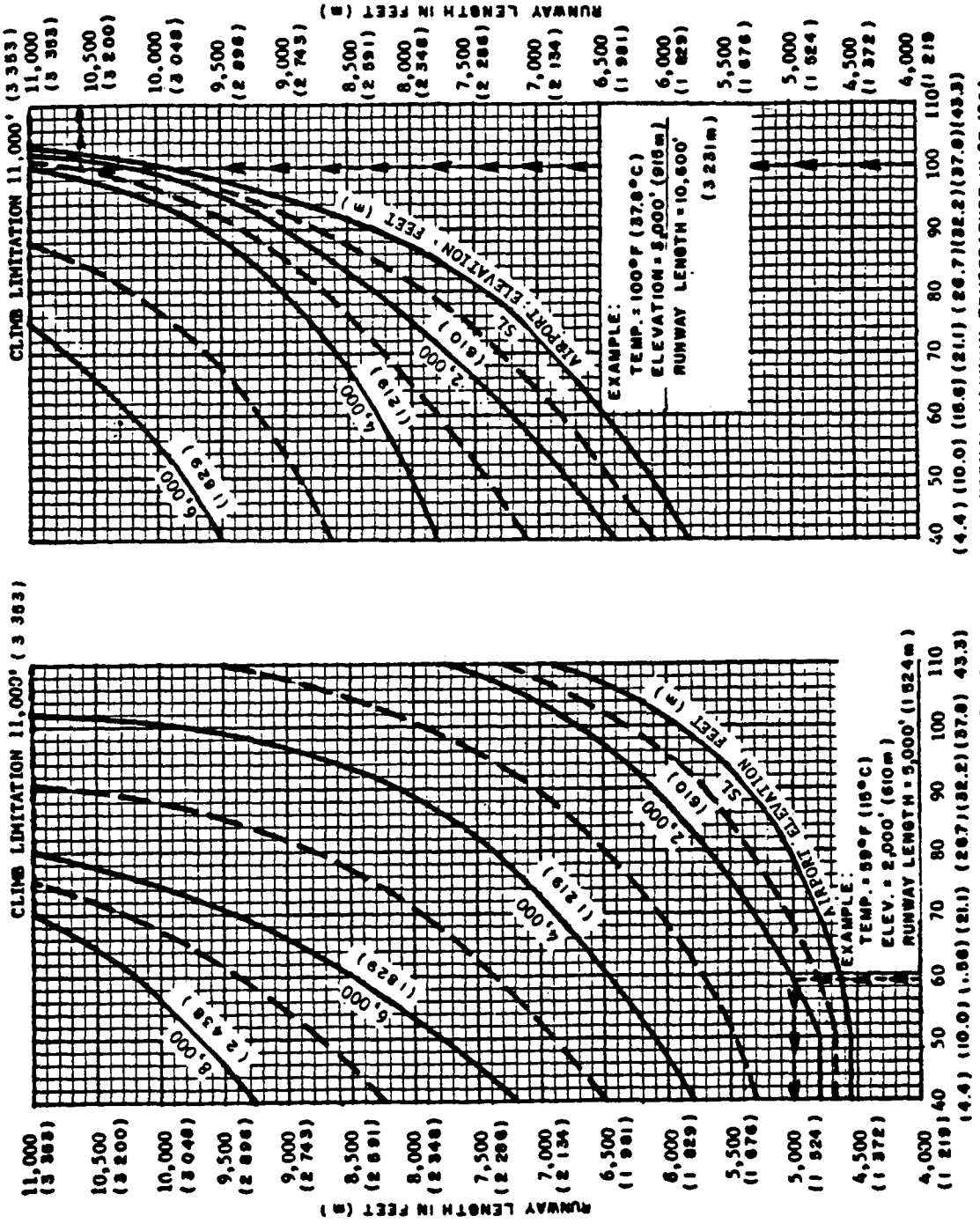


Figure 2-4. Runway length to serve 100% of large airplanes of 60,000 pounds (27 200 kg) or less

(a) Difference in Runway Centerline Elevations. Runway lengths taken from the curves are increased at the rate of 10 foot (3 m) for each foot (0.3 m) of elevation difference between the high and low points of the runway centerline.

(b) Wet and Slippery Runways (turbojet-powered airplanes). Runway lengths taken from the 60 percent useful load curves are increased by 15 percent, or up to 5,500 feet (1 680 m), whichever is less. Runways lengths obtained from the 90 percent useful load curves are increased by 15 percent, or up to 7,000 feet (2 130 m), whichever is less.

(c) High Altitude Locations. At elevations above 5,000 feet (1 500 m) mean sea level, the runway length for airplanes of 12,500 pounds (5 670 kg) or less maximum certificated takeoff weight may be greater than those required for those turbojet-powered airplanes. In these cases, the longer length should be provided.

e. All Airplanes with Maximum Certificated Takeoff Weight of more than 60,000 Pounds (27 200 kg). Figure 2-5 illustrates the pattern that exists between runway length and length of haul. Runway lengths up to 15,000 feet (4 900 m) may be taken as an approximation of the recommended runway length.

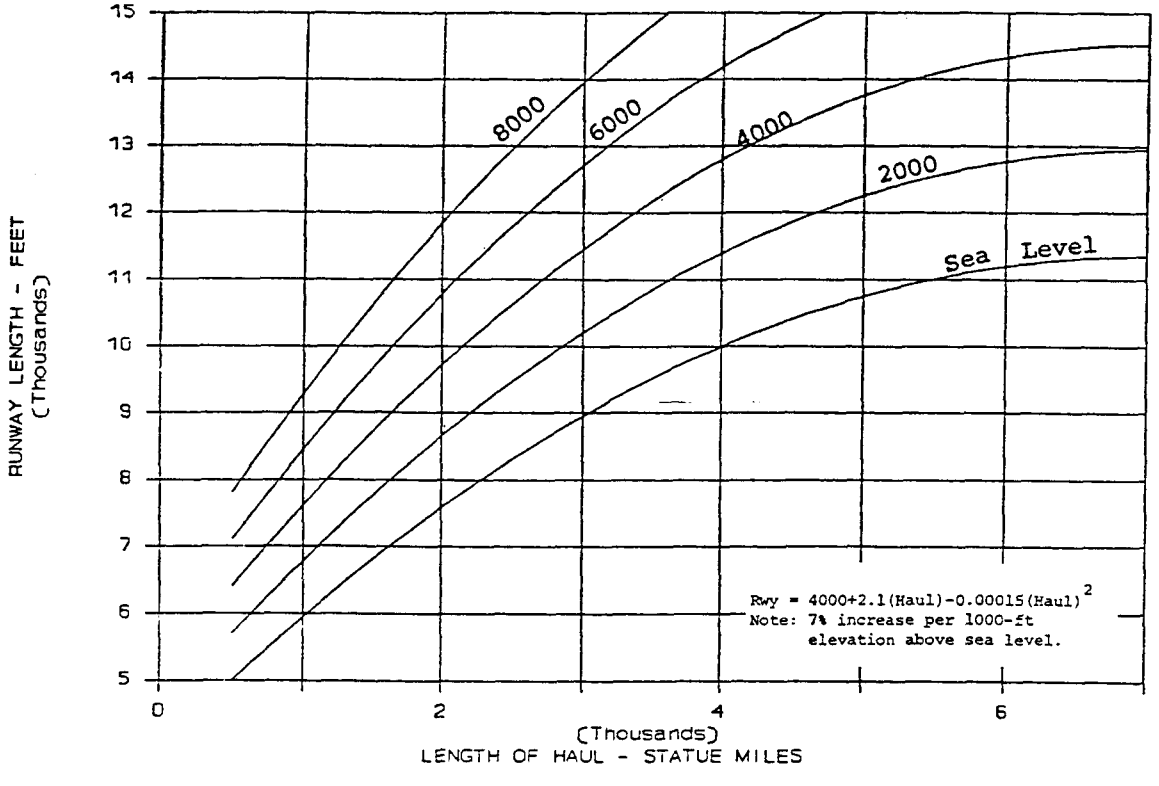


Figure 2-5. General runway length planning guide

CHAPTER 3. RUNWAY LENGTH BASED ON SPECIFIC AIRPLANES

7. DESIGN GUIDELINES. This design procedure uses the curves of appendices 1 and 2 and the tables of appendix 3. Appendix 1 is for piston- and turboprop-powered airplanes and appendixes 2 and 3 are for turbojet-powered airplanes. Section 1 is the procedure for using the curves and section 2 is the procedure for using the tables. Both landing and takeoff lengths must be computed with the longer length being the recommended runway length.

SECTION 1. AIRPLANE PERFORMANCE CURVES

8. REQUIRED INFORMATION. The following basic information must be gathered for use with the curves:

a. The airplanes which are to be served.

b. The mean daily maximum temperature (°F) for the hottest month of the year at the airport.

c. The airport elevation (MSL).

d. The longest length of haul flown on a regular basis.

e. The maximum difference in runway centerline elevation.

9. INTERPOLATION. Interpolation is permissible and usually necessary between curves for airport temperatures, airport elevations, and airplane operating weights.

10. EXAMPLE NO. 1. This example (figure 3-2 trace) illustrates how limitations on the curves apply at heavy operating weights, high elevations, and/or high temperatures. These limitations are indicated by the "limit lines" and "elevation lines" in the upper right-hand portion of the takeoff performance curves.

a. Problem. Determine the recommended runway length for the following airplane design conditions:

(1) Airplane . . . . . Example Large Airplane (figures 3-1 and 3-2).

(2) Mean daily maximum temperature . . . . . 70°F.

(3) Airport elevation . . . . . 3,000 feet.

(4) Length of Haul . . . . . 2,200 Miles.

(5) Maximum difference in runway centerline elevations . . . 56 feet.

b. Landing Length. This length is derived from figure 3-1 as follows:

(1) Enter the figure on the abscissa (horizontal) axis at the airplane's maximum landing weight (175,000 pounds) (see paragraph 17).

(2) Project this point vertically to the intersection with the slanted line corresponding to the airport's elevation (3,000 feet).

(3) Extend this point of intersection horizontally to the right to the intersection with the runway length scale to 6,900 feet.

(a) If the airplane is piston- or turboprop-powered (appendix 1), the landing length is 6,900 feet.

(b) If the airplane is turbojet-powered (appendix 2), increase the landing length by 7 percent, i.e., 6,900 x 1.07 or 7,390 feet (see paragraph 21).

c. Takeoff Length. This length is derived from figure 3-2 as follows:

(1) Enter the temperature scale on the abscissa (horizontal) axis at the temperature (70° F).

(2) Project this point vertically to the intersection with the slanted line corresponding to the airport's elevation (3,000 feet).

(3) Extend this point of intersection horizontally to the right until coincident with the reference line (RL).

(4) Proceed up and to the right or down and to the left, interpolating between the slanted lines as necessary, to the intersection of either the elevation limit line (3,000-foot) or the point directly above the airplane's takeoff weight or distance (2,200 miles), whichever yields the shortest runway length. In this case the 3,000-foot elevation limit line yields the shortest length.

(5) Project this point horizontally to the right to the intersection with the runway length scale to read 11,250 feet.

(6) Increase this runway length for the maximum difference in runway centerline elevations. Add 560 feet (56 ft x 10, see paragraph 22) to obtain 11,810 feet.

d. Answer. For this example, the recommended runway length is the takeoff length (11,800 feet) since it is greater than the landing length. Runway lengths of 30 feet and over are rounded up to the next 100-foot interval.

EXAMPLE LARGE AIRPLANE

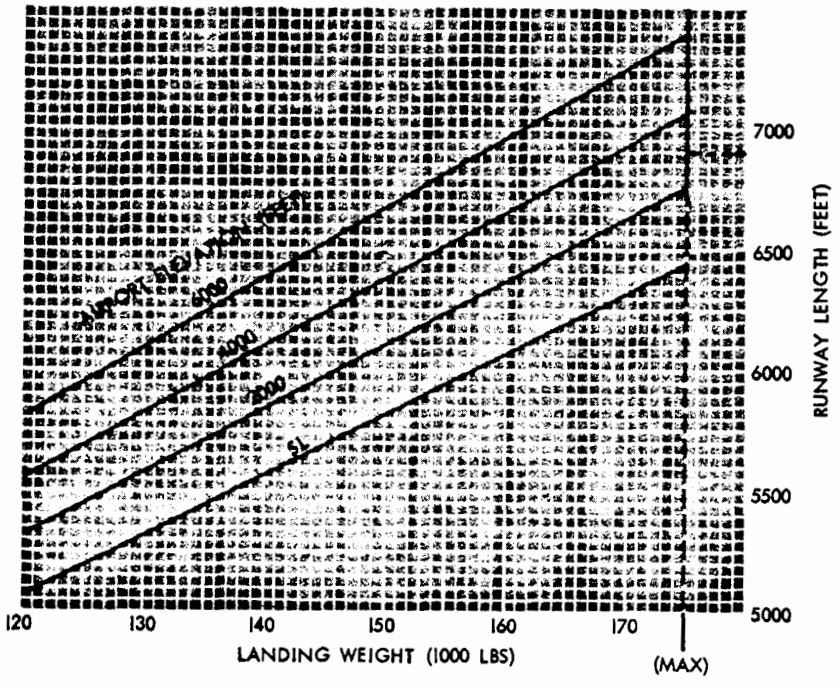
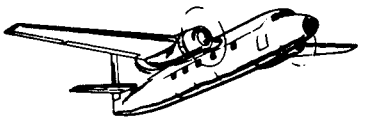


Figure 3-1. Airplane performance curve: landing (example)



EXAMPLE LARGE AIRPLANE

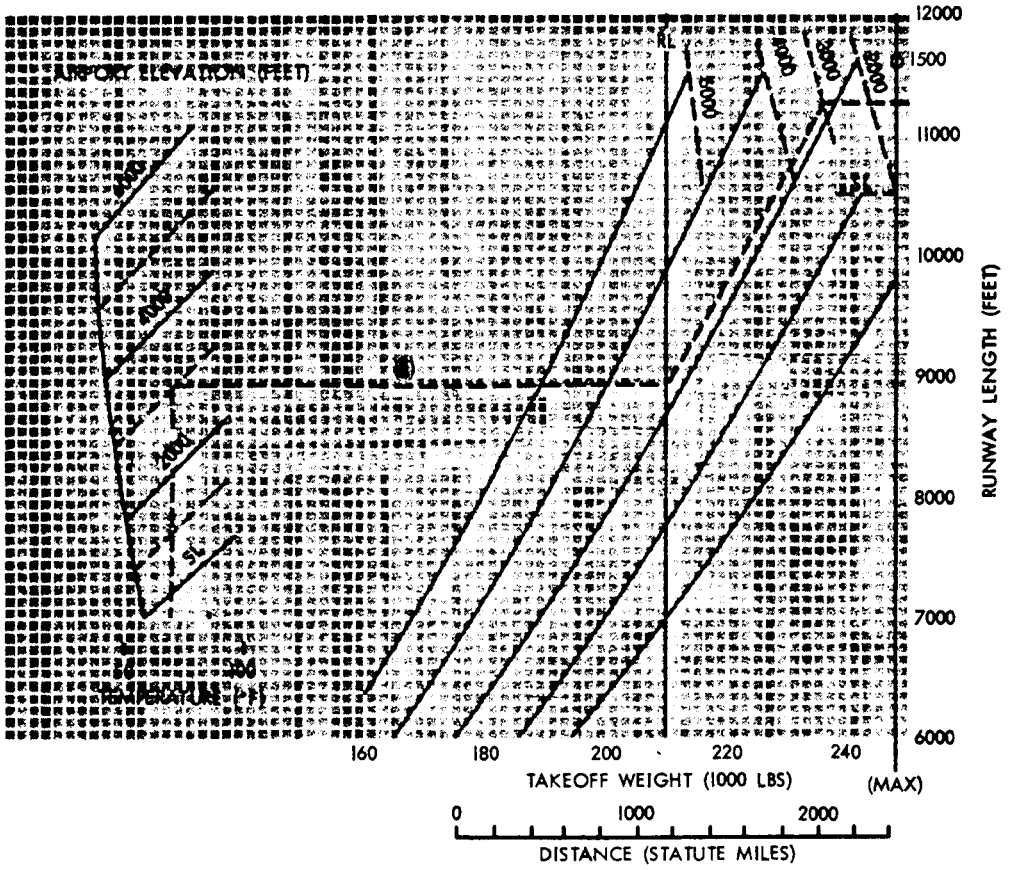


Figure 3-2. Airplane performance curve: takeoff (example)

SECTION 2. AIRPLANE PERFORMANCE TABLES

11. REQUIRED INFORMATION. The following basic information must be gathered for use with the tables:

a. The airplanes which are to be served.

b. The mean daily maximum temperature (°F) for the hottest month of the year at the airport.

c. The airport elevation (MSL).

d. The longest length of haul flown on a regular basis.

e. The selected payload.

f. The maximum difference in runway centerline elevation.

12. INTERPOLATION.

a. Flap Settings. Flap settings shown in the tables are the authorized settings for operations. No interpolation is made between flap settings.

b. Other Factors. Interpolation is permissible and usually necessary between airport temperature, airport elevation, airplane operating weight, and the reference factor "R".

13. EXAMPLE NO. 2.

a. Problem. Determine the recommended runway length for the following design conditions:

(1) Airplane . . Boeing 707-303C (JT3D-3B Engine) Convert, Passenger.

(2) Mean daily maximum temperature . . . . . 85°F.

(3) Airport elevation . . . . . 3,000 Feet.

(4) Length of haul . . . . . 1,200 Statute Miles.

(5) Selected payload . . . . . 74,900 Pounds.

(6) Maximum difference in runway center elevations . . . . . 48 Feet.

b. Landing Length. This length is derived from table 1, appendix 3, as follows.

(1) Enter the table with a temperature of 85°F and an airport elevation of 3,000 feet. Read a maximum allowable landing weight of 247,000 pounds. Repeat for each flap setting for airplanes with data for more than one flap setting. Identify the flap setting(s) that provides the greatest maximum allowable landing weight.

(2) Enter the runway length section of the table for this flap setting(s) with the maximum landing weight of 247,000 pounds and the airport elevation of 3,000 feet and read the runway length of 7,646 feet through interpolation. The landing length is rounded up to 7,700 feet. When there are two or more flap settings yielding the greatest maximum allowable landing weight, the landing length is the shortest runway length obtained from any of these flap settings.

c. Takeoff Weight. Calculate the takeoff weight using the information found at the bottom of table 1, appendix 3, and top of table 2, appendix 3, as follows:

(1) Multiply the length of haul by the average fuel consumption to obtain the fuel weight for this length of haul.

1,200 statute miles
x 27 pounds/mile
32,400 pounds

(2) To this fuel weight, add the typical operating empty weight and the reserve fuel weight to obtain the airplane weight without payload. A few tables have two typical operating empty weight plus reserve fuel entries. In these cases, use the entry based on 1.25 hours of reserve fuel.

32,400 pounds
+ 171,100 pounds
203,500 pounds

(3) To this weight, add the payload (for this example equals the maximum structural payload).

203,500 pounds
+ 74,900 pounds
278,400 pounds

(4) Enter the top of table 2 with a temperature of 85°F and an airport elevation of 3,000 feet. Read a maximum allowable takeoff weight of 311,400 pounds. Repeat for each flap setting for airplanes with data for more than one flap setting. Identify the flap setting(s) that accommodates the above weight of 278,400 pounds. If none, then identify the flap setting(s) which produces the greatest maximum allowable takeoff weight. The takeoff weight is 278,400 pounds at the flap setting listed at top of table 2 for this example. The 278,400 pounds controls since it is less than the maximum allowable takeoff weight of 311,400 pounds.

d. Takeoff Length. This length is derived from table 2, appendix 3, as follows:

(1) Enter the Reference Factor "R" section of the table with a temperature of 85°F and an airport elevation of 3,000 feet to read a value of "R" = 82.9.

(2) Enter the runway section of the table with the takeoff weight of 278,400 pounds and the R value of 82.9 to read a takeoff runway length of 9,620 feet by interpolation. When there are two or more flap settings yielding the design takeoff weight, the takeoff length is the shortest runway length obtained from any of these flap settings. This takeoff length is for zero wind and zero difference in runway centerline elevations.

(3) Adjustment for maximum difference between runway centerline elevations per paragraph 22:

$$9,620 + (48 \times 10) = 9,620 + 480 = 10,100 \text{ feet}$$

(4) Answer.

Landing Weight	247,000 pounds
Takeoff Weight	278,400 pounds
Landing Length	7,700 feet
Takeoff Length	10,100 feet

The recommended runway length for this airplane is 10,100 feet. Runway lengths of 30 feet and over are rounded up to the next 100-foot interval.

Chapter 4. DESIGN RATIONALE

14. INTRODUCTION. This chapter provides guidance on the application of eight of the variable factors that significantly affect the recommended runway length. All other variable factors are incorporated into the curves and tables of this advisory circular in a manner to produce the shortest recommended runway length. Therefore, the recommended runway length can be obtained from airplane flight manuals by applying the eight variable factors as discussed in this chapter and applying all other factors in a manner to produce the shortest runway length, e.g., "braking anti-skid" is activated. Table 4-1 summarizes the eight variable factors.

15. AIRPLANE. The recommended runway length is based on the airplanes forecasted to use the runway on a regular basis. A regular basis is considered to be at least 250 operations a year. Under very unusual circumstances, adjustments to this minimum frequency of operations may be made after considering the circumstances, e.g., seasonal traffic variations or the special needs of isolated or remote areas.

16. FLAP SETTINGS. The recommended runway length is based on the flap setting producing the shortest runway length. Composite figures 2-1 through 2-4 and appendices 1 and 2 are based on the flap settings that produce this length. Appendix 3 lists the authorized flap settings at the top of each series of landing and takeoff tables. Therefore, when using appendix 3, select the flap setting producing the shortest runway length.

17. OPERATING WEIGHTS. The recommended runway length is based on realistic operating weights. These weights are normally the operating weights of airplanes conducting regular operations over a specific length of haul. For landing runway length design, this weight is the maximum allowable landing weight, excluding subparagraph 17a(3). For takeoff runway length design, this weight is the lesser of (1) the operating weight empty plus the weight of the reserve fuel, weight of fuel required to fly to the airport of destination, and payload, (2) the airplane's maximum structural landing weight plus the weight of fuel required to fly to the airport of destination, or (3) the maximum allowable takeoff weight, excluding subparagraph 17b(6). Justification for lengthening a runway beyond that required for these maximum allowable operating weights must be for other than increased operating weights.

a. Maximum Allowable Landing Weight. The airplane's maximum allowable landing weight is the lesser of the following:

(1) Maximum Structural Landing Weight.

(2) Climb Limited Landing Weight.

(3) Runway Length Limited Landing Weight.

b. Maximum Allowable Takeoff Weight. The airplane's maximum allowable takeoff weight is the lesser of the following:

(1) Maximum Structural Takeoff Weight.

(2) Climb Limited Takeoff Weight.

(3) Tire Speed Limited Takeoff Weight.

FACTORS & Paragraph Reference		COMPOSITE CURVES				AIRPLANE PERFORMANCE CURVES		AIRPLANE PERFORMANCE TABLES
		Figures				Appendix 1	Appendix 2	Appendix 3
		2-1	2-2	2-3	2-4	Non-Turbojet	Turbojet	Turbojets over 12,500 lbs
Airplane Type (para. #15)		Based on Number of Passenger Seats		Based on Percent of Fleet		Indicated on Curves		Indicated on Tables
Flap Settings (para. #16)		For Shortest Runway Length				For Shortest Runway Length		Indicated on Tables
Operating Weights (para. #17)	Takeoff	Maximum Takeoff Wt.		Percent of Useful Load		Indicated on Curves		Indicated on Tables
	Landing	Maximum Takeoff Wt.		Percent of Useful Load		Indicated on Curves		Indicated on Tables
Airport Elevation (para. #18)		Indicated on Curves				Indicated on Curves		Indicated on Tables
Temperature (para # 19)	Takeoff	Indicated on Curves				Indicated on Curves		Indicated on Tables
	Landing	Indicated on Curves		Independent of Results		Independent of Results		Independent of Results
Wind (para #20)	Takeoff	Zero Wind				Zero Wind		Zero Wind
	Landing	Zero Wind				Five Knots		Zero Wind
Runway Surface Conditions (para #21)	Takeoff	Independent of Results				Independent of Results		Independent of Results
	Landing	Independent of Results		Dry		Independent of Results	Dry	Wet
Difference Runway Centerline (para #22)	Takeoff	Independent of Results		Zero		Zero		Zero
	Landing	Independent of Results				Independent of Results		Independent of Results
Runway Length for Takeoff		Airplane Takeoff Distance		Larger of Airplane Takeoff Distance or Accelerate-Stop Distance		Larger of Airplane Takeoff Distance or Accelerate-Stop Distance		Larger of Airplane Takeoff Distance or Accelerate-Stop Distance
Runway Length for Landing		Airplane Landing Distance		Airplane Dry Landing Distance Divided by 0.6		Airplane Landing Distance Divided by 0.6	Airplane Dry Landing Distance Divided by 0.6	If available, Airplane Wet Landing Distance Divided by 0.6 Otherwise, (Airplane Dry Landing Distance Divided by 0.6) x 1.15

Table 4-1. Treatment of design runway factors

(4) Takeoff Weight Limited by Maximum Landing Weight.

(5) Obstacle Clearance Limited Takeoff Weight.

(6) Runway Length Limited Takeoff Weight.

c. Operating Weights. The recommended runway length is based on the following:

(1) Small Airplanes. Composite figures 2-1 through 2-2 provide the recommended runway lengths for maximum allowable landing and takeoff weights.

(2) Large Airplanes.

(a) Composite Figures. Composite figures 2-3 and 2-4 provide the recommended runway lengths for the lesser of (1) the maximum allowable landing and takeoff weights or (2) the weight of the airplane with useful load.

(b) Appendices 1 and 2.

1 For landing runway length, use the maximum allowable landing weight, excluding subparagraph 17a(3).

2 For takeoff runway length, use the lesser weight of the maximum allowable takeoff weight, exclusive of subparagraph 17b(6), or the weight corresponding to the distance flown. The weight corresponding to the distance flown is the lesser of either (1) the operating weight empty plus 100 percent structural payload plus the weights of fuel required to fly to the airport of destination and fuel reserve required for one hour and 15 minutes of flying time or (2) the airplane's maximum structural landing weight plus the weight of fuel required to fly to the airport of destination.

(c) Appendix 3.

1 For landing runway length, use the maximum allowable landing weight, excluding subparagraph 17a(3).

2 For takeoff runway length, use the lesser of (1) the operating weight empty plus payload, plus fuel required to fly to the airport of destination, and plus the weight of the reserve fuel, (2) the airplane's maximum structural landing weight plus the weight of fuel required to fly to the airport of destination, or (3) the maximum allowable takeoff weight, excluding subparagraph 17b(6).

18. AIRPORT ELEVATION. For runway length design, substitute airport elevation above mean sea level for pressure altitude. This substitution is acceptable since the two are approximately equal and the probability of these conditions occurring simultaneously is relatively remote. Therefore, any difference can be discounted.

19. TEMPERATURE. For runway length design, use the mean daily maximum temperature at the airport during the hottest month of the year as the temperature. This temperature is readily available and yields a practical length.

20. WIND. The recommended runway length is based on zero wind velocity. Composite figures 2-1 through 2-4, the takeoff curves in appendices 1 and 2, and the tables in appendix 3 are based on zero wind velocity. The landing curves of appendices 1 and 2 are based on a five-knot tailwind. The runway lengths obtained from the landing curves of appendices 1 and 2 are converted to zero wind velocity as part of the calculations of compensation for runway surface conditions.

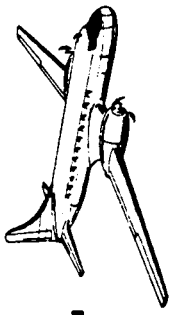
21. RUNWAY SURFACE CONDITIONS (LANDING ONLY). The recommended runway length is based on the most demanding runway conditions. For turbo-jet airplanes, this is when the runway is wet or slippery. Wet or slippery conditions require an increase in the turbo-jet airplane (dry) landing runway length. The landing length tables and figure 2-5 are based on wet or slippery runway conditions. The landing curves in appendix 2 and the landing portion of the curves in figures 2-3 and 2-4 are based on dry runway conditions. The landing lengths taken from the landing portions of figures 2-3 and 2-4 need to be increased by 15 percent. The curves in appendix 2 take into account a five-knot tailwind which reduces the increase to 7 percent. There is no operational requirement for an increase in runway length for wet or slippery conditions for other than turbo-jet airplane landings.

22. MAXIMUM DIFFERENCE OF RUNWAY CENTERLINE ELEVATION (TAKEOFF ONLY). The maximum difference of runway centerline elevation affects the recommended runway length. For airplanes over 12,500 pounds (5 670 kg) maximum certificated takeoff weight, the recommended takeoff runway lengths derived from composite figures 2-3 and 2-4 and appendices 1 though 3 must be increased by 10 feet per foot of difference in centerline elevation between the high and low points of the runway centerline elevations. This increase approximates the operational increase required for uphill effective runway gradient. There is no operational requirement for an increase in landing runway length to compensate for uphill or downhill effective runway gradient. There is no operational requirement for an increase in runway length to compensate for effective runway gradient for airplanes of 12,500 pounds (5 670 kg) or less maximum certificated takeoff weight. There is no need to increase the runway lengths derived from figure 2-5.

APPENDIX 1. PISTON- AND TURBOPROP-POWERED LARGE AIRPLANES

1. AIRPLANE PERFORMANCE CURVES. The data curves contained in this appendix are for large piston-powered airplanes (figures 1 - 34) and large turboprop-powered airplanes (figures 35 - 60).

2. EXPLANATORY INSTRUCTIONS. See chapter 2 for explanatory instructions on the use of the data curves.



CONVAIR 240

PRATT & WHITNEY R2800-CA18 ENGINE
R2800-CB16

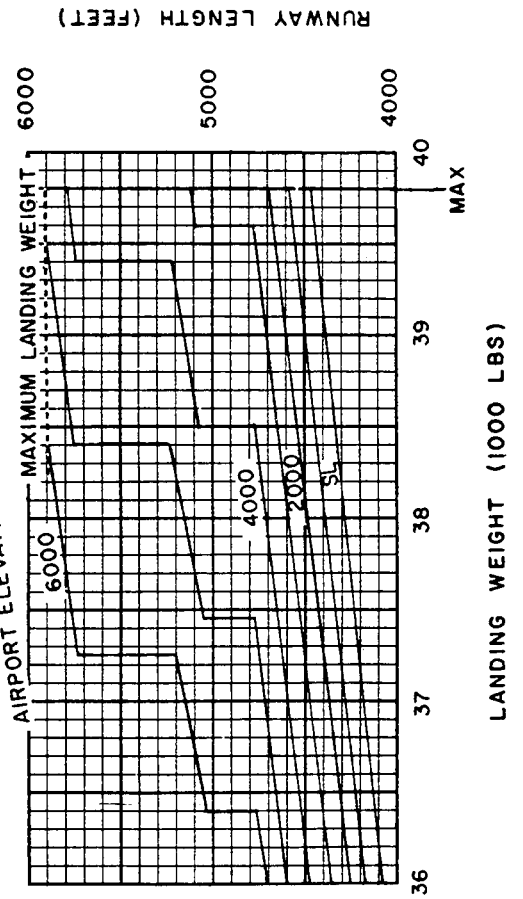


FIGURE 1. Aircraft Performance Curve, Landing (Convair 240)

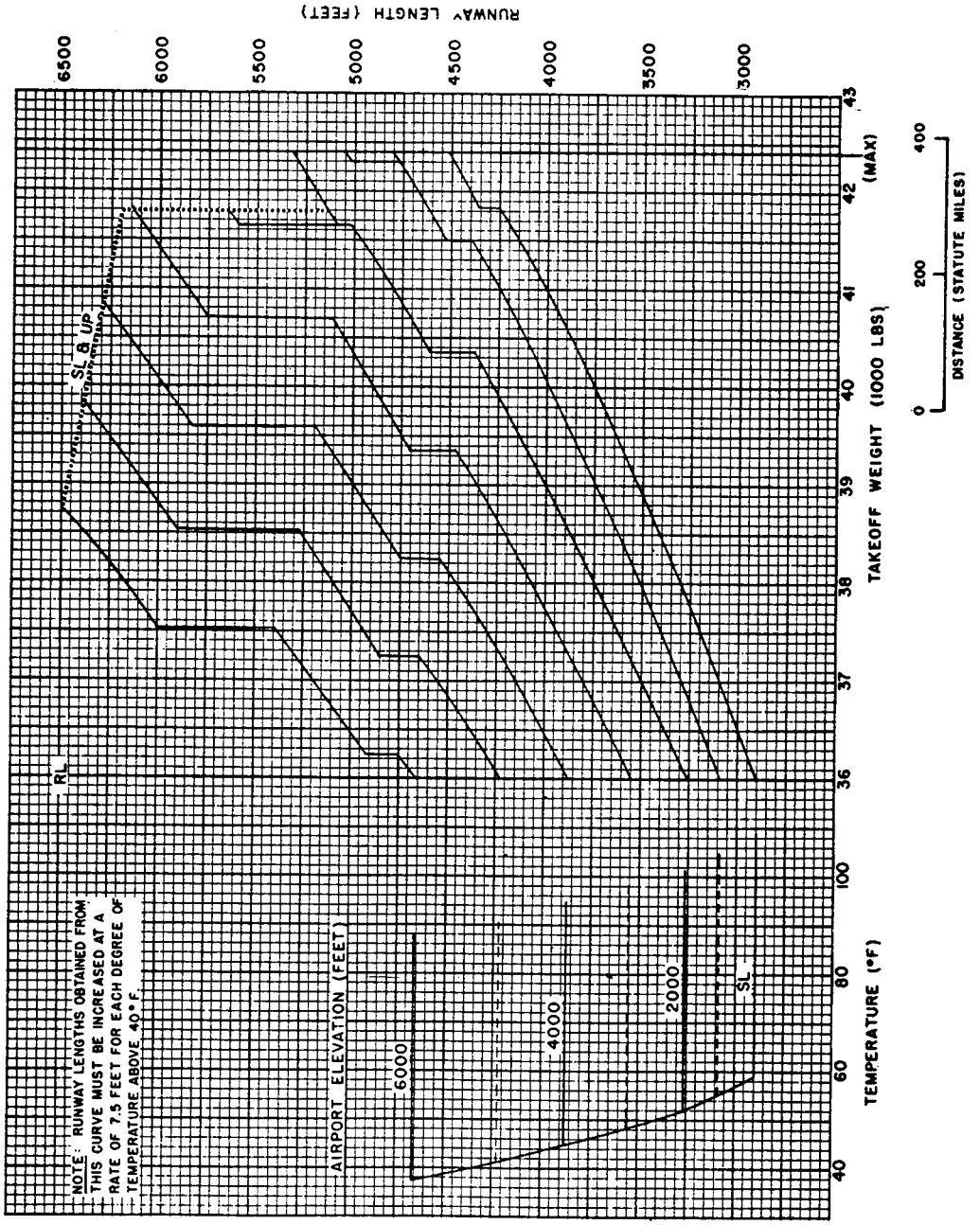
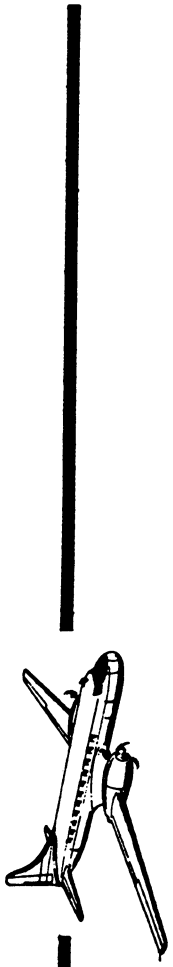


FIGURE 2. Aircraft Performance Curve, Takeoff (Convair 240)



CONVAIR 340 & 440

PRATT & WHITNEY R2800-CB3 ENGINE
R2800-CB4
R2800-CB16
R2800-CB17

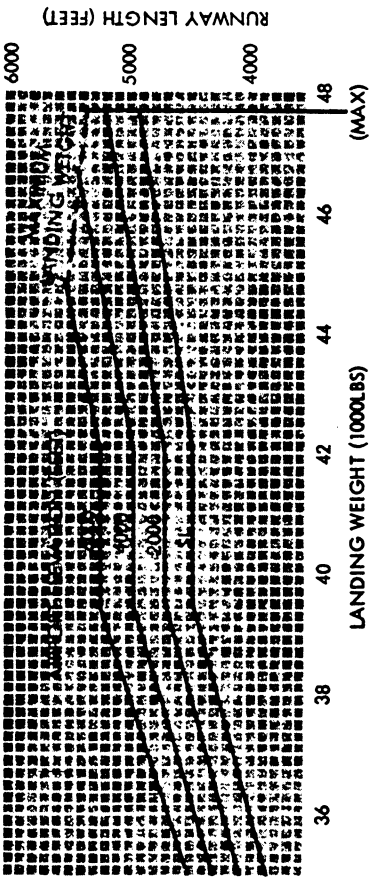


FIGURE 3. Aircraft Performance Curve, Landing (Convair 340 & 440)

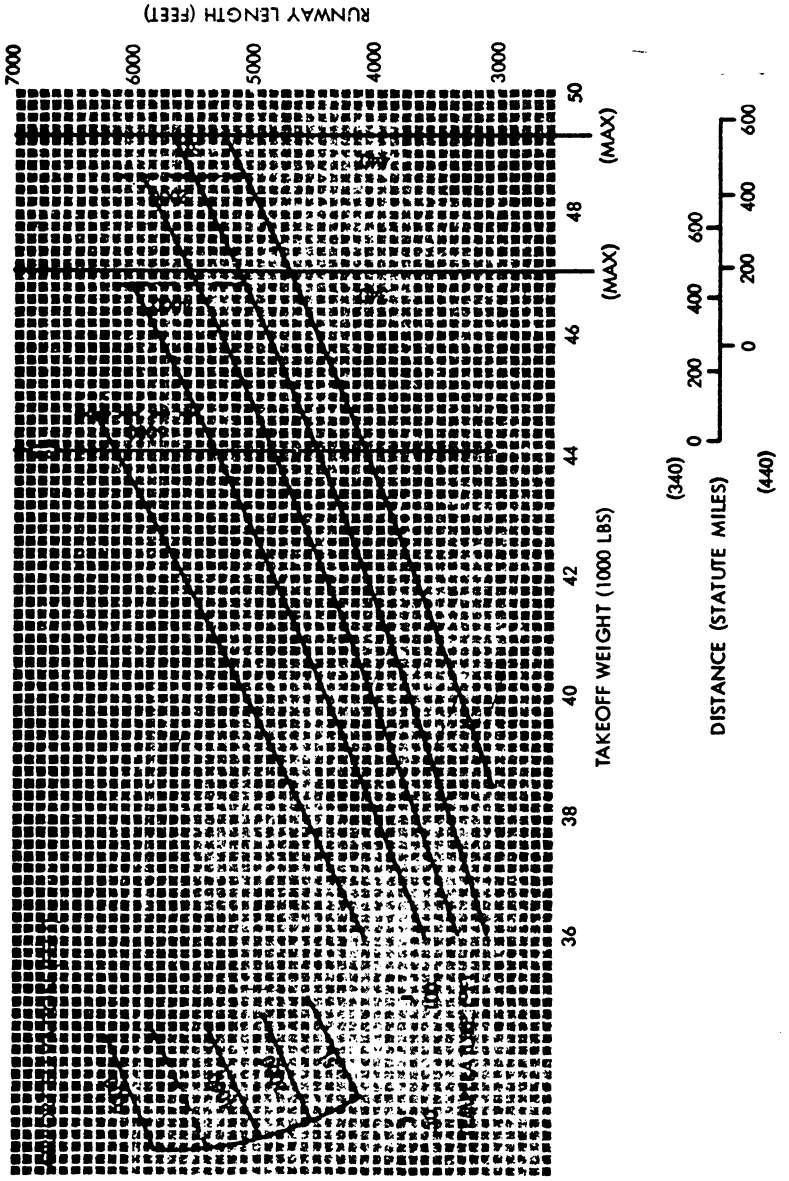
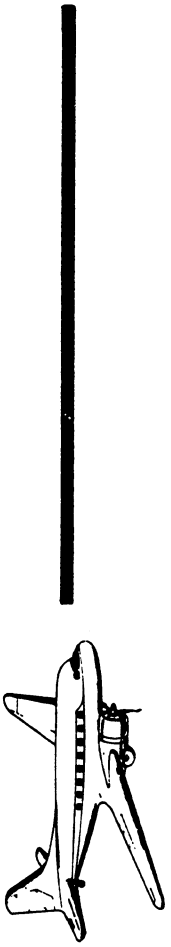


FIGURE 4. Aircraft Performance Curve, Takeoff (Convair 340 & 440)



DOUGLAS DC-3

NONTRANSPORT
PRATT & WHITNEY SIC 3G ENGINE
WRIGHT G-202A

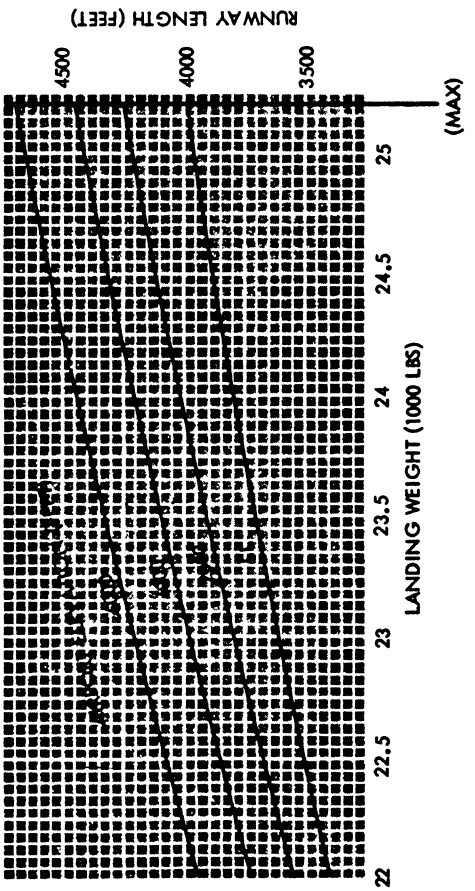


FIGURE 5. Aircraft Performance Curve, Landing (Douglas DC-3)

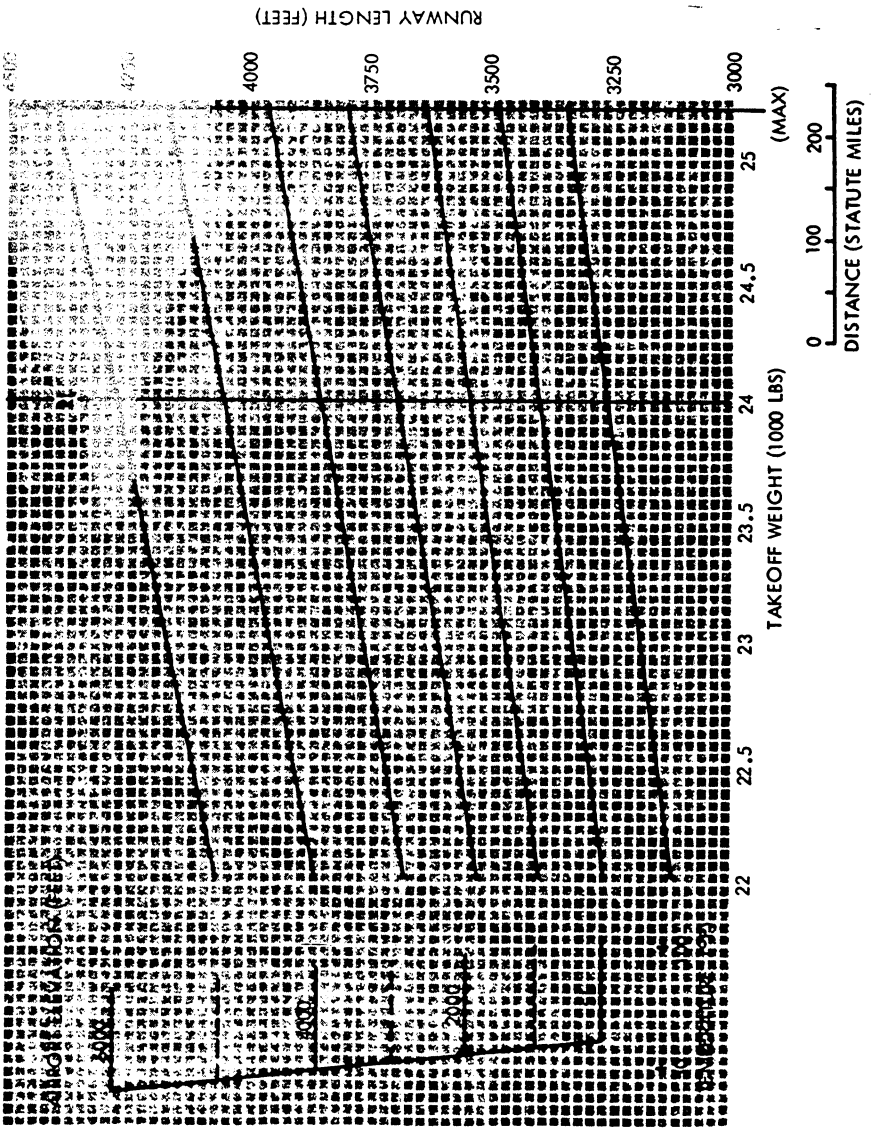


FIGURE 6. Aircraft Performance Curve, Takeoff (Douglas DC-3)

DOUGLAS DC-4
PRATT & WHITNEY R2000-7 ENGINE
R2000-11

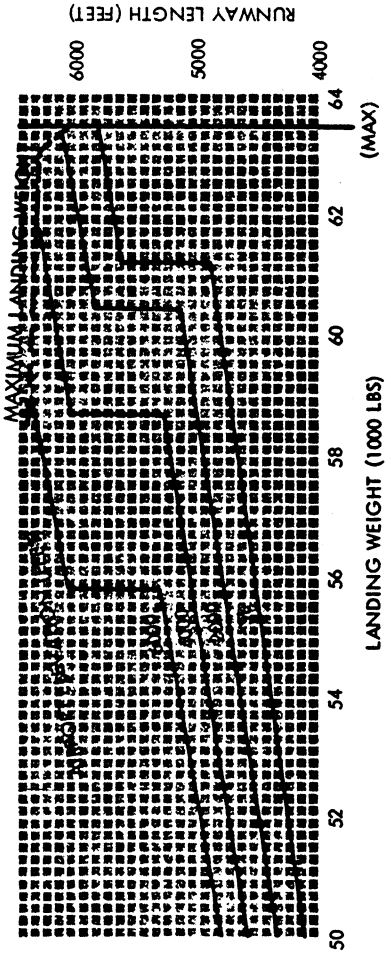


FIGURE 7. Aircraft Performance Curve, Landing (Douglas DC-4)

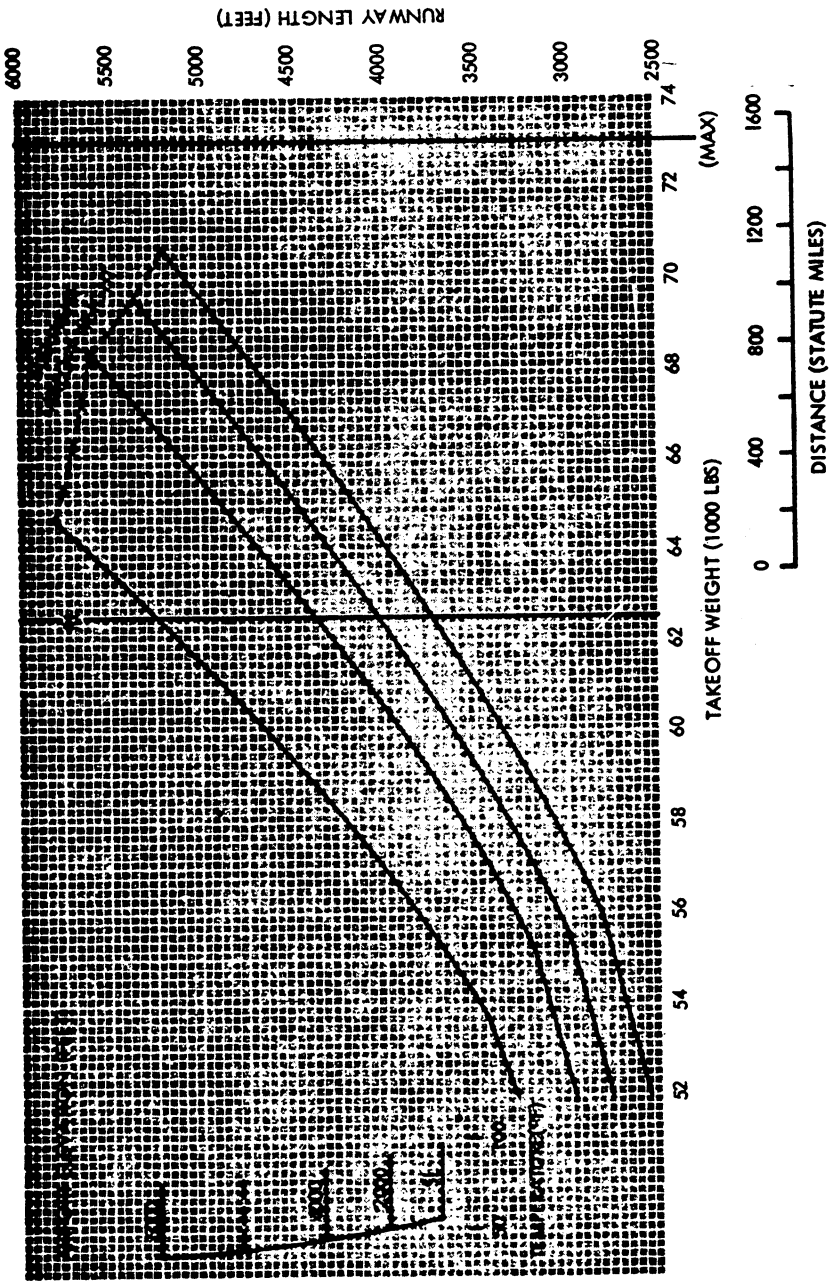


FIGURE 8. Aircraft Performance Curve, Takeoff (Douglas DC-4)

DOUGLAS DC-6A & 6B

PRATT & WHITNEY R2800-CB16 ENGINE

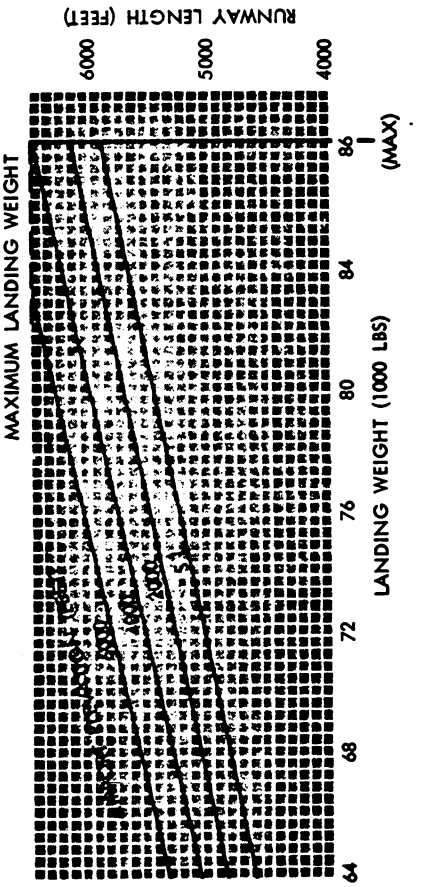


FIGURE 9. Aircraft Performance Curve, Landing (Douglas DC-6A & 6B)

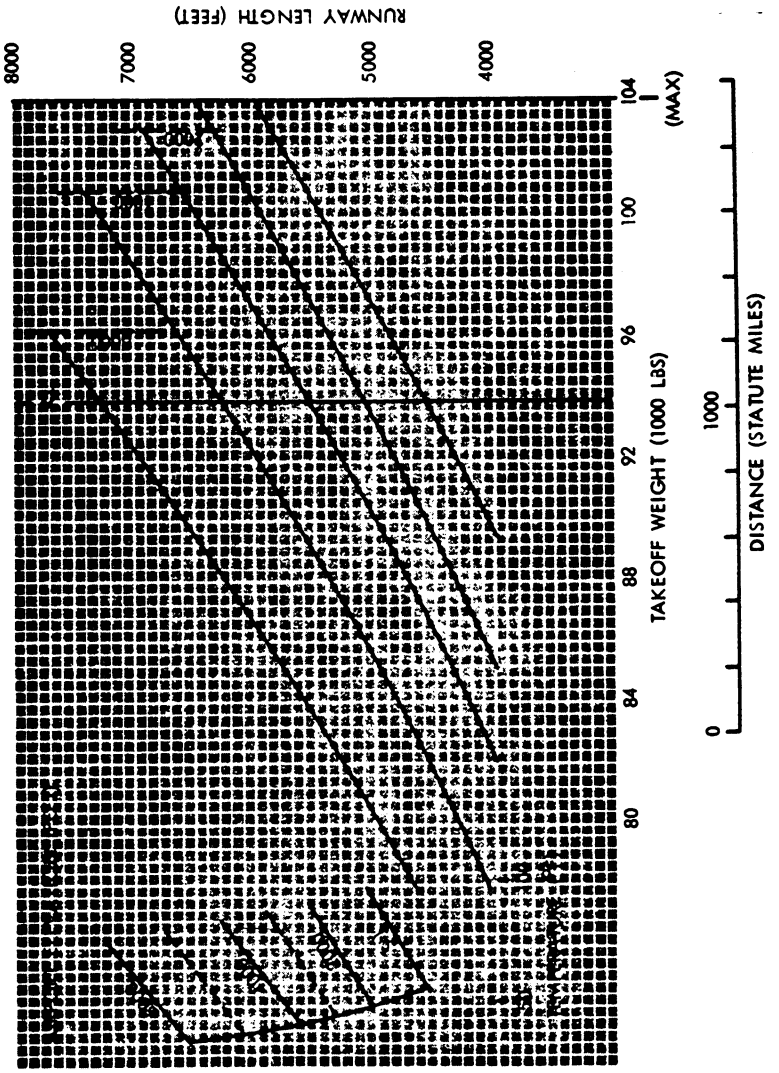


FIGURE 10. Aircraft Performance Curve, Takeoff (Douglas DC-6A & 6B)

DOUGLAS DC-7

WRIGHT 972 TC 18 DA2 ENGINE
972 TC 18 DA4

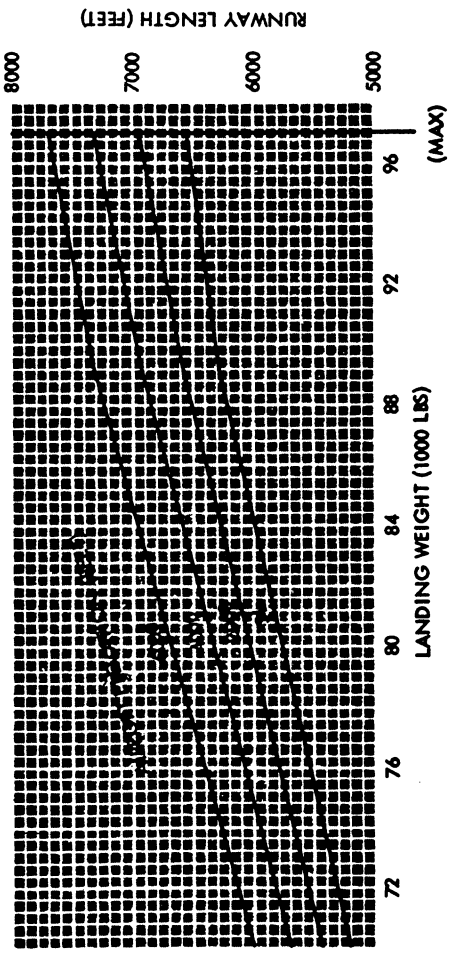


FIGURE 11. Aircraft Performance Curve, Landing (Douglas DC-7)

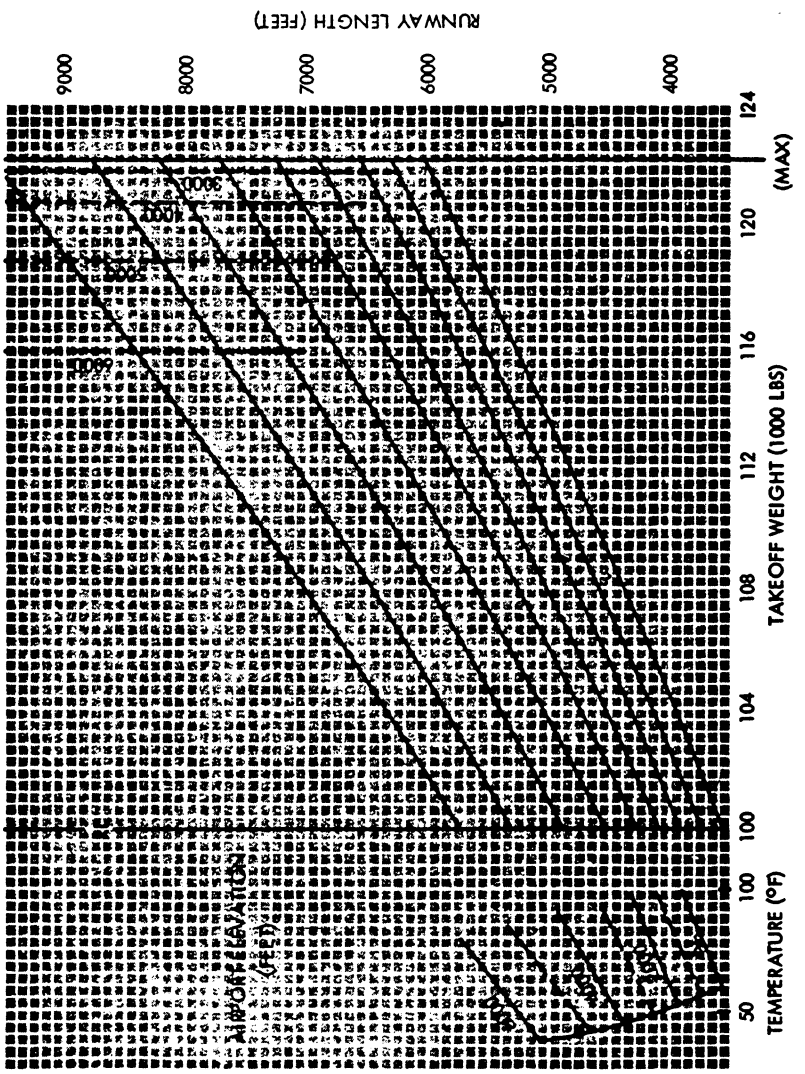


FIGURE 12. Aircraft Performance Curve, Takeoff (Douglas DC-7)

DOUGLAS DC-7B

WRIGHT 972 TC 18 DA2 ENGINE
972 TC 18 DA4
988 TC 18 EA1
988 TC 18 EA4

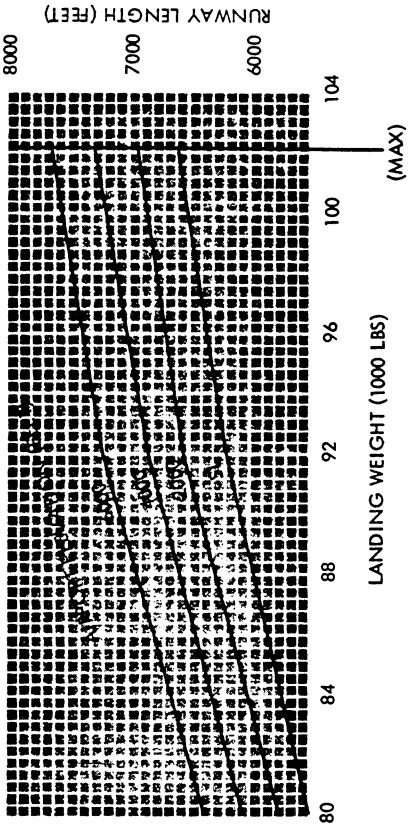


FIGURE 13. Aircraft Performance Curve, Landing (Douglas DC-7B)

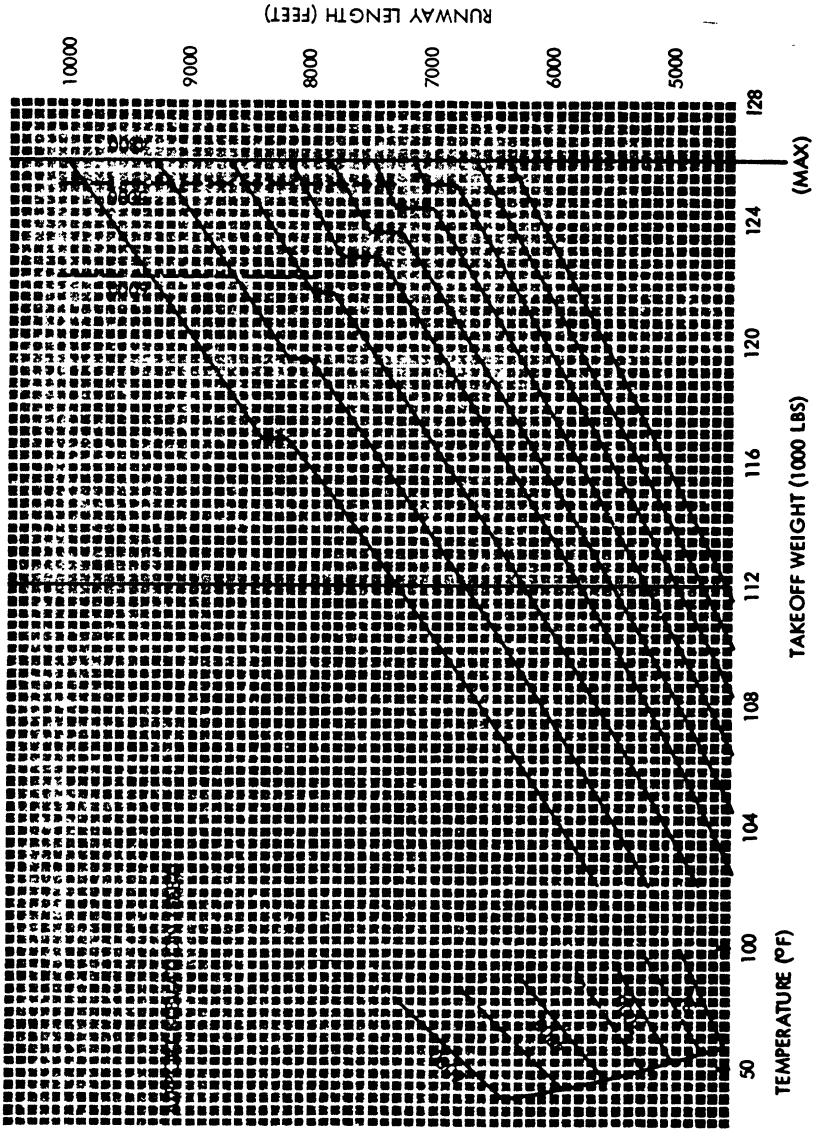


FIGURE 14. Aircraft Performance Curve, Takeoff (Douglas DC-7B)

DOUGLAS DC-7C

WRIGHT R3350 ENGINE

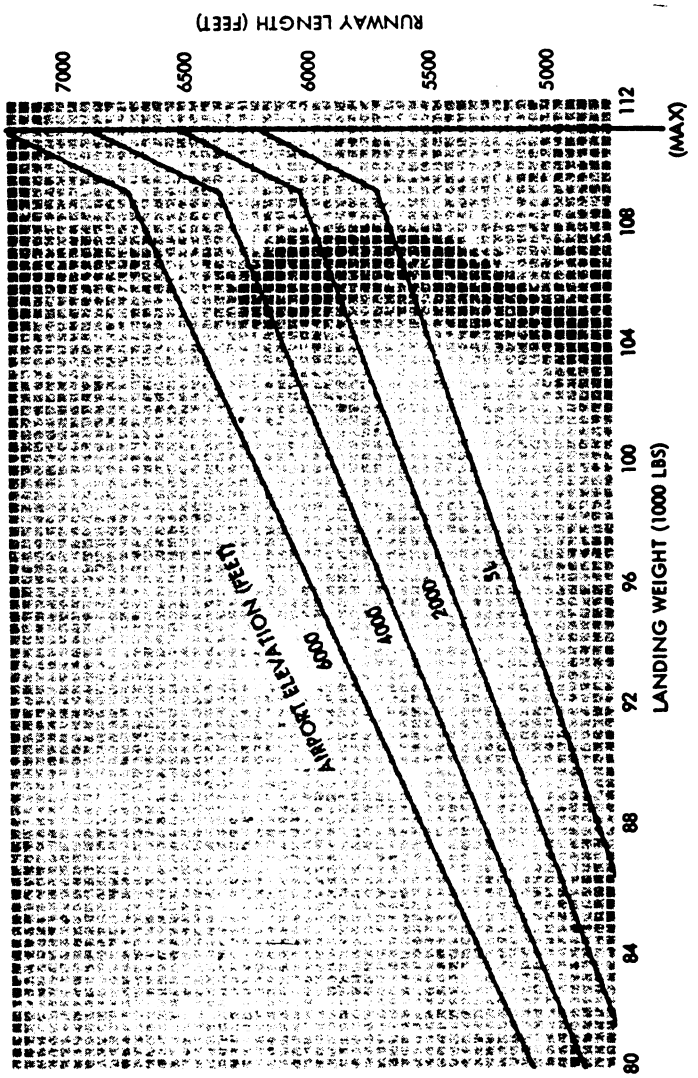


FIGURE 15. Aircraft Performance Curve, Landing (Douglas DC-7C)

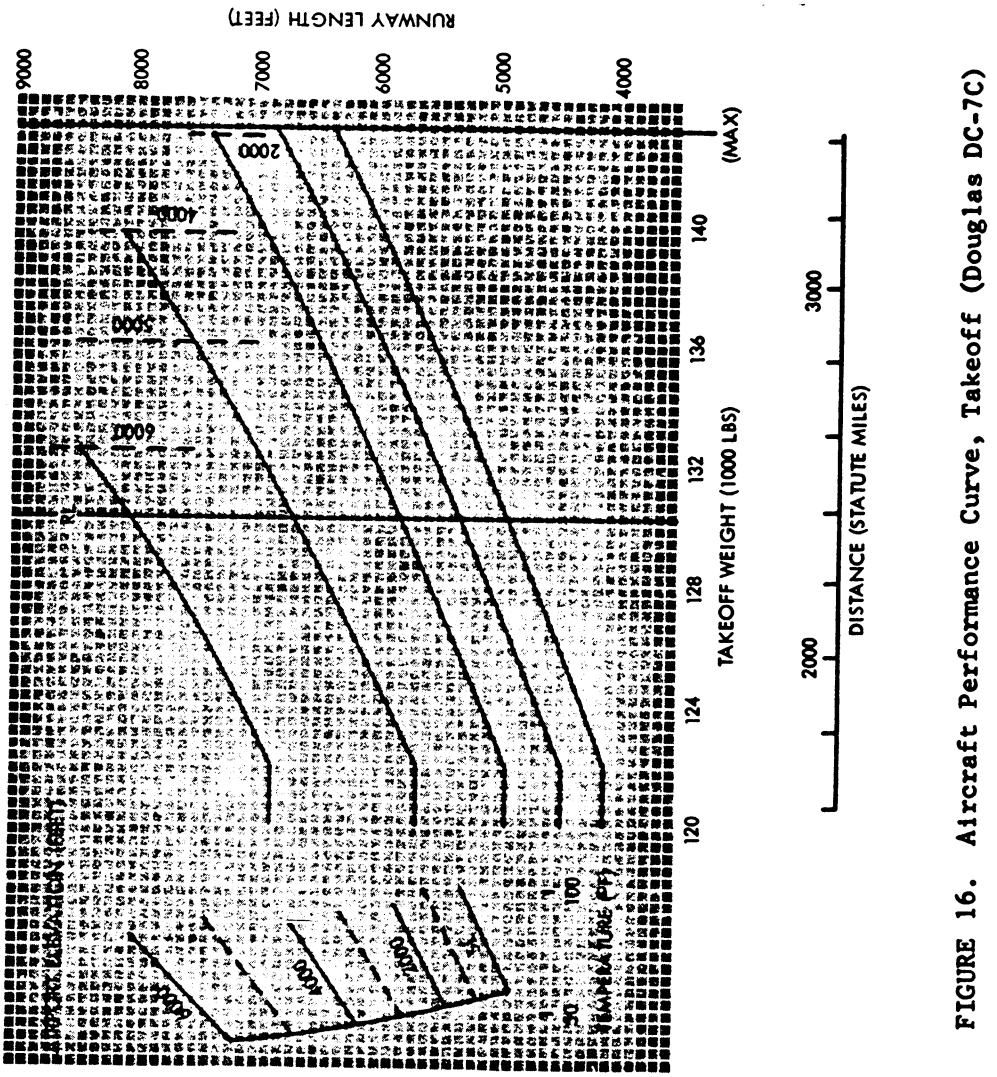
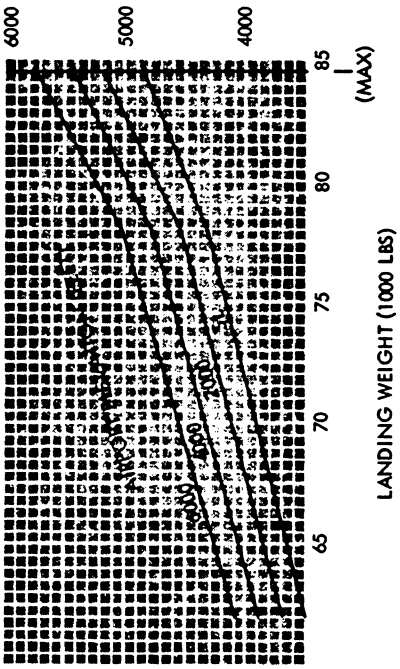


FIGURE 16. Aircraft Performance Curve, Takeoff (Douglas DC-7C)

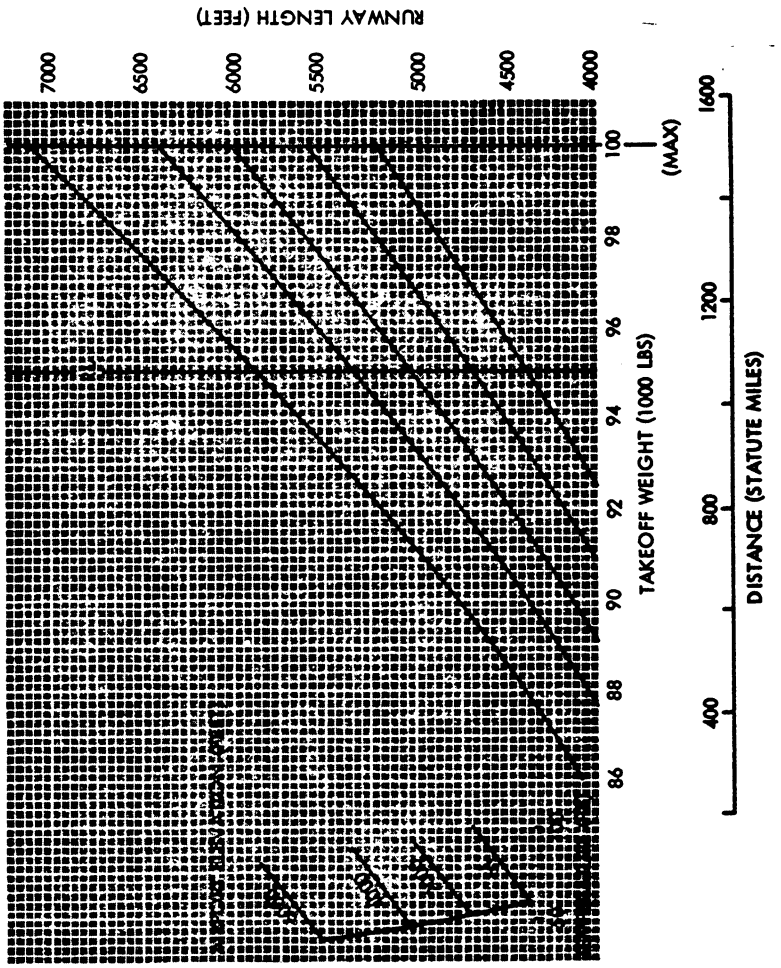
LOCKHEED 49 SERIES & 149

WRIGHT 745 C 18 BA3 ENGINE



MODEL	MAX WEIGHT (1000 LBS)
49	75.0
49A	77.8
49B	77.8
49C	83.0
49D	83.0
49E	84.5
149	83.0

FIGURE 17. Aircraft Performance Curve, Landing (Lockheed 49 Series & 149)



MODEL	MAX WEIGHT (1000 LBS)
49	86.3
49A	90.0
49B	93.0
49C	93.0
49D	96.0
49E	98.0
149	100.0

FIGURE 18. Aircraft Performance Curve, Takeoff (Lockheed 49 Series & 149)

LOCKHEED 649 & 749

WRIGHT 749 C 18 BD1 ENGINE

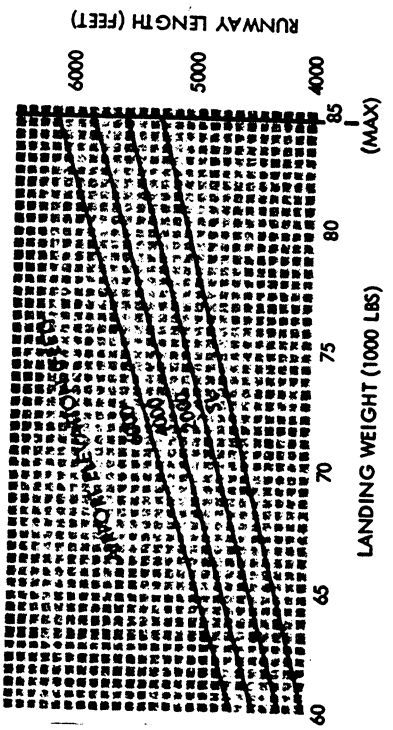


FIGURE 19. Aircraft Performance Curve, Landing (Lockheed 649 & 749)

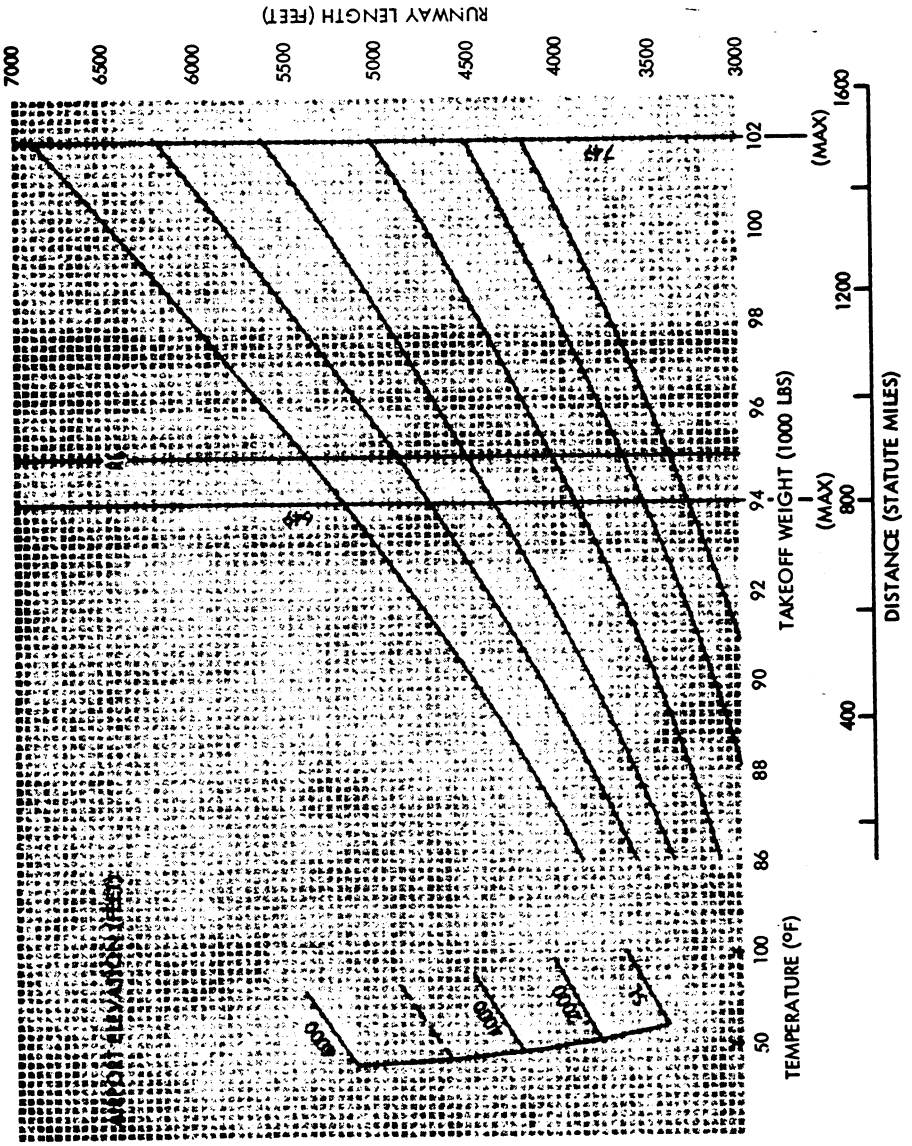


FIGURE 20. Aircraft Performance Curve, Takeoff (Lockheed 649 & 749)

LOCKHEED 649A & 749A

WRIGHT 749 C 18 BD1 ENGINE

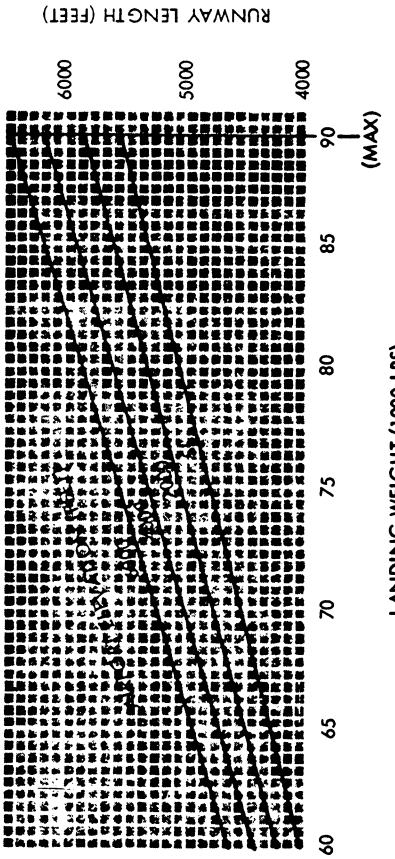


FIGURE 21. Aircraft Performance Curve, Landing (Lockheed 649A & 749A)

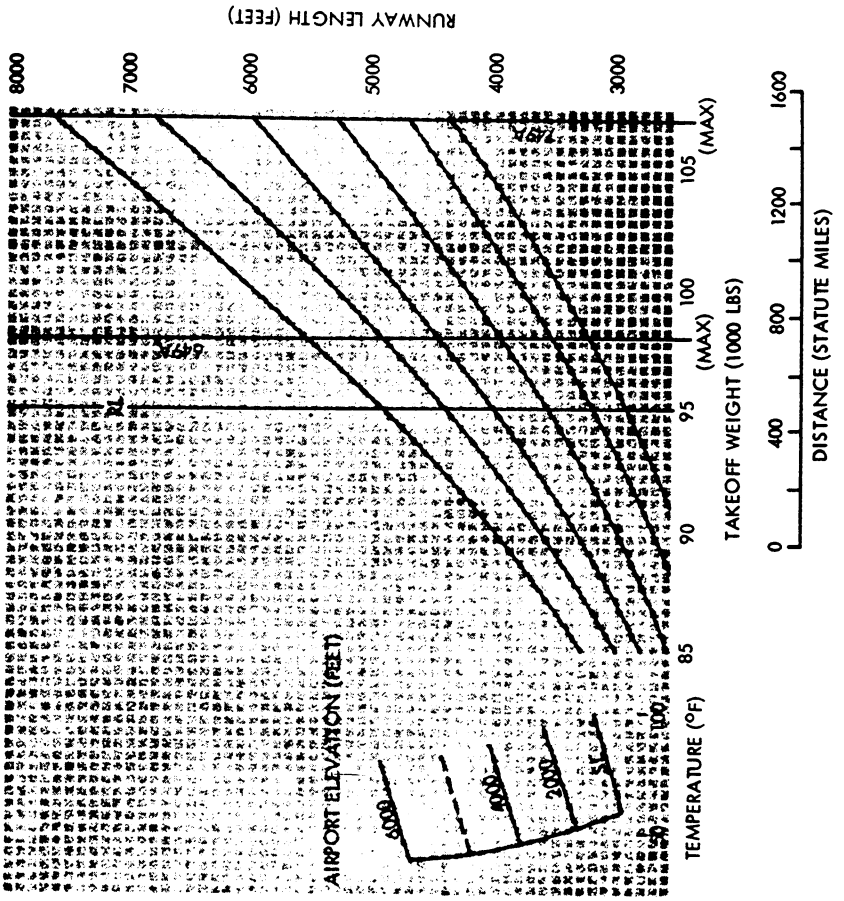
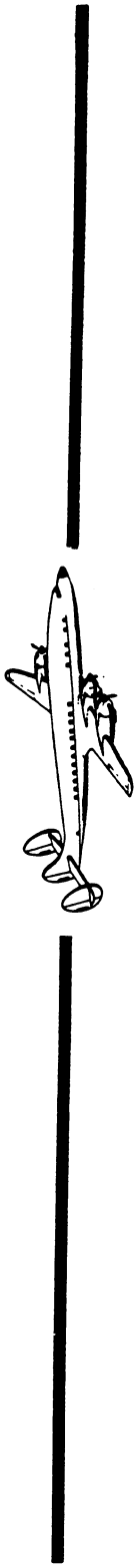


FIGURE 22. Aircraft Performance Curve, Takeoff (Lockheed 649A & 749A)



LOCKHEED 1049

WRIGHT 975 C 18 CB1 ENGINE

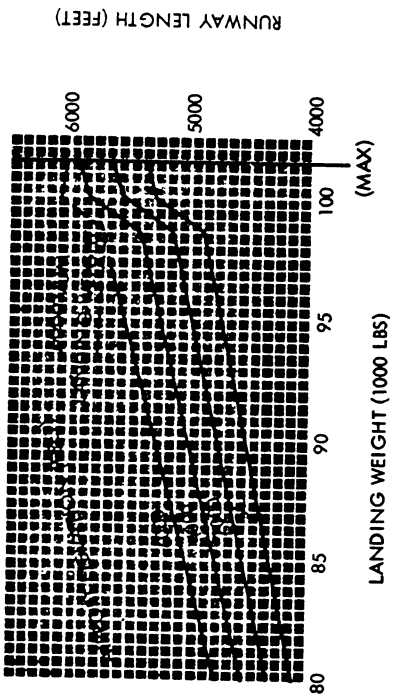


FIGURE 23. Aircraft Performance Curve, Landing (Lockheed 1049)

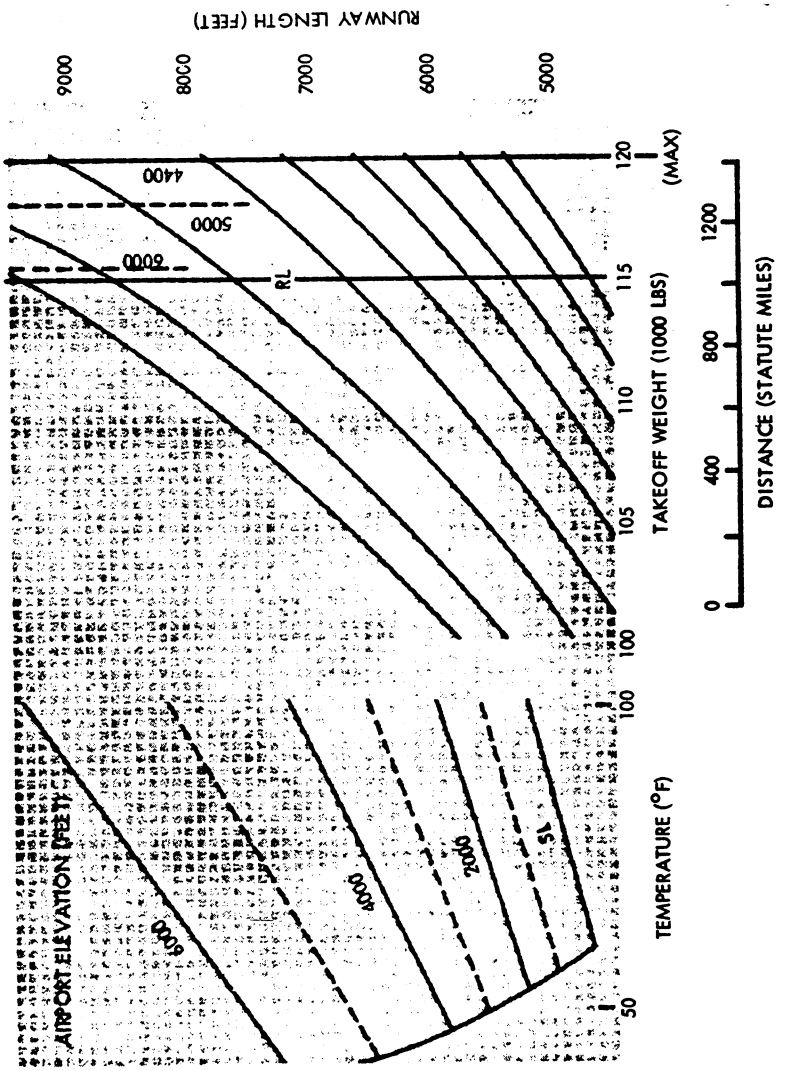


FIGURE 24. Aircraft Performance Curve, Takeoff (Lockheed 1049)

LOCKHEED 1049G

WRIGHT 988 TC 18 EA3 ENGINE
988 TC 18 EA6

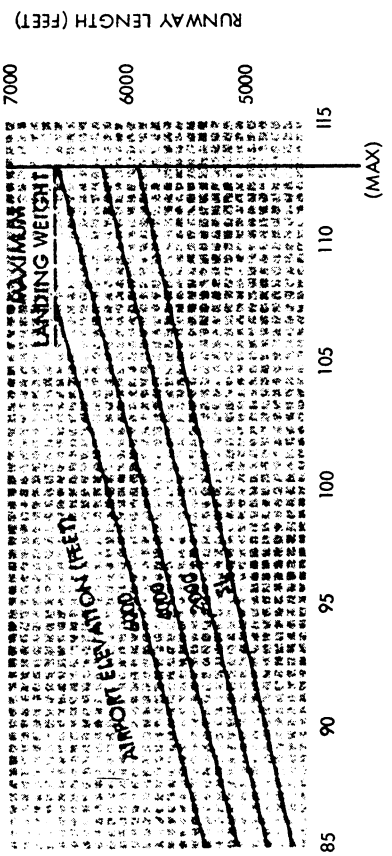


FIGURE 25. Aircraft Performance Curve, Landing (Lockheed 1049G)

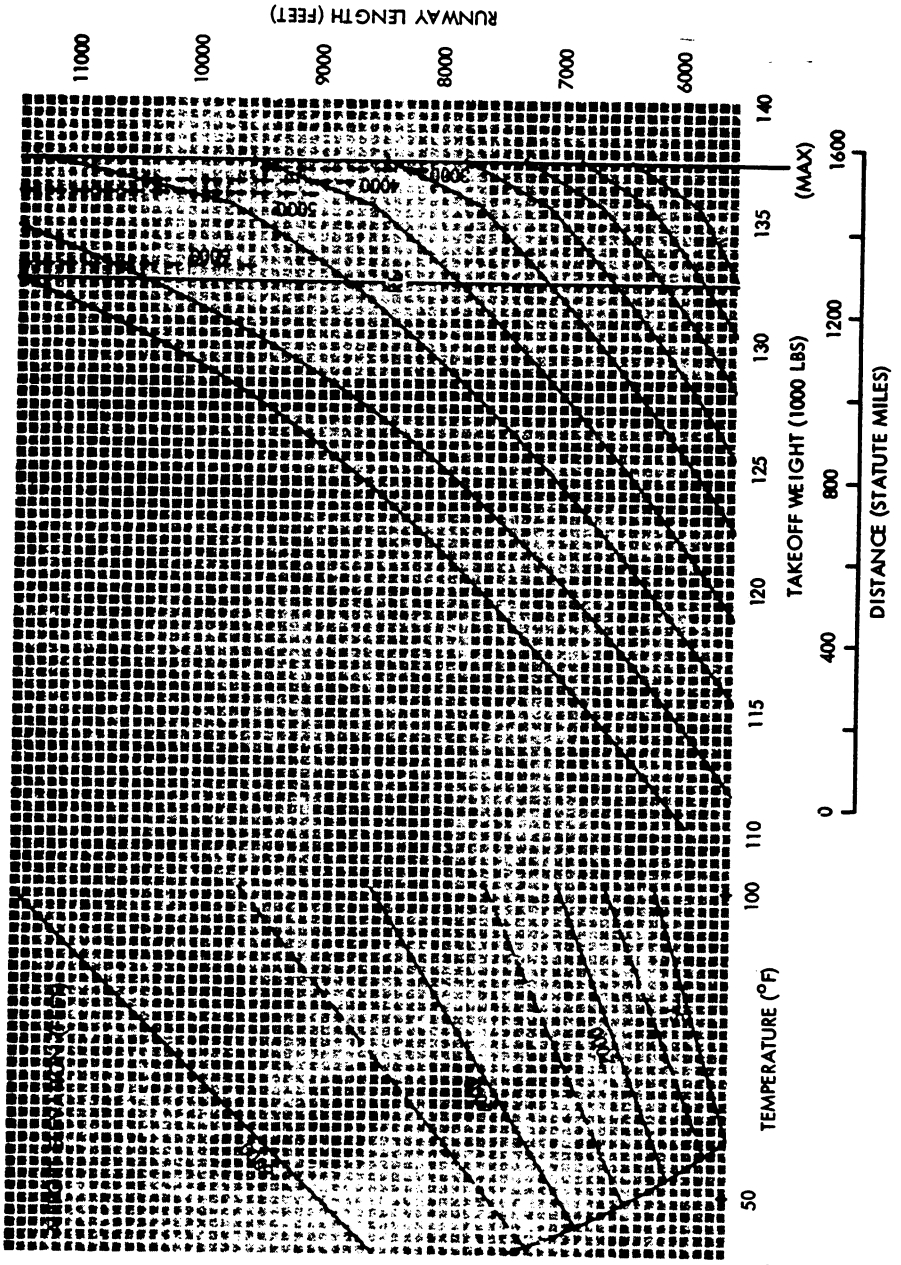
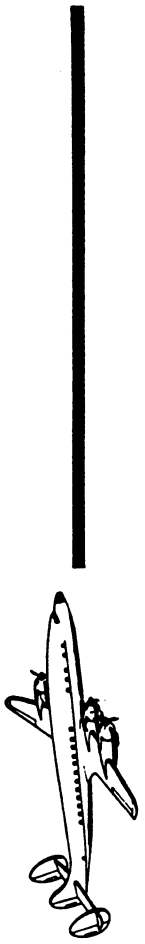


FIGURE 26. Aircraft Performance Curve, Takeoff (Lockheed 1049G)



LOCKHEED 1049H

WRIGHT 988 TC 18 EA3 ENGINE
988 TC 18 EA6

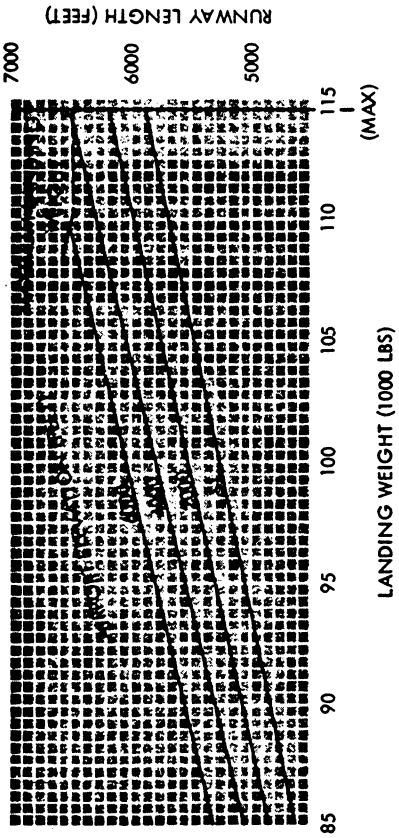


FIGURE 27. Aircraft Performance Curve, Landing (Lockheed 1049H)

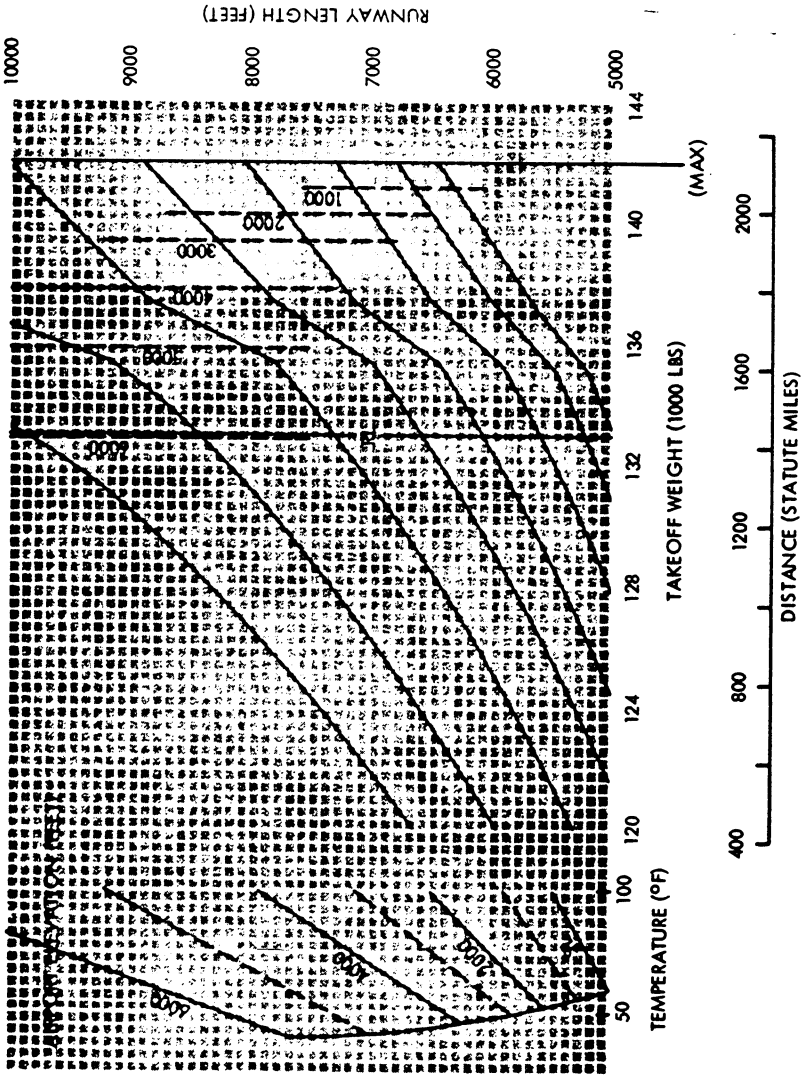
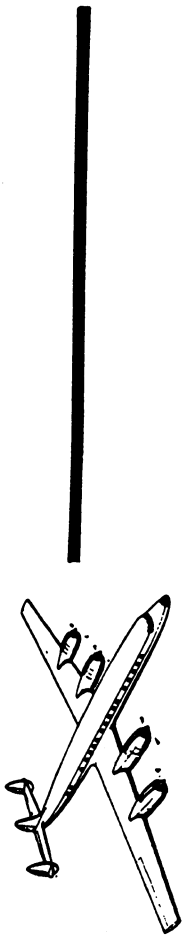


FIGURE 28. Aircraft Performance Curve, Takeoff (Lockheed 1049H)



LOCKHEED 1649A

WRIGHT 988 TC 18 EA2 ENGINE

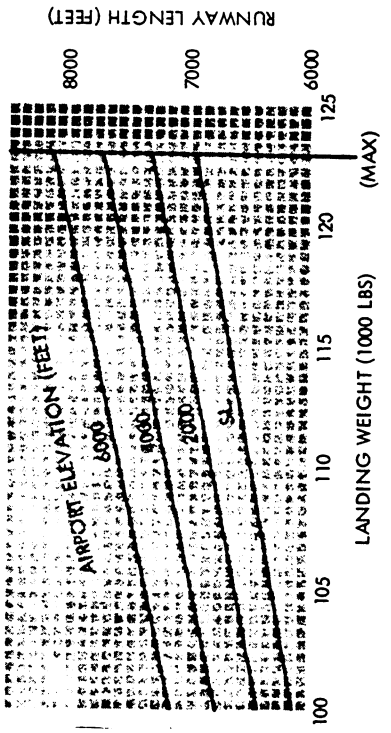


FIGURE 29. Aircraft Performance Curve, Landing (Lockheed 1649A)

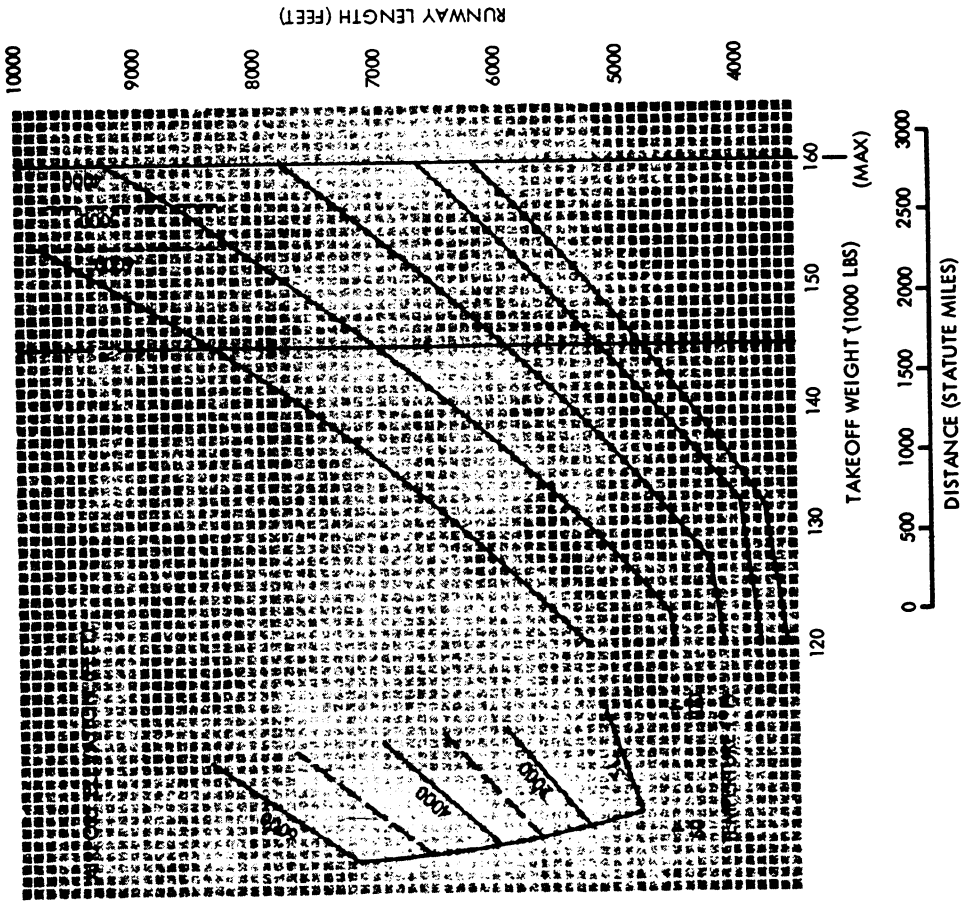
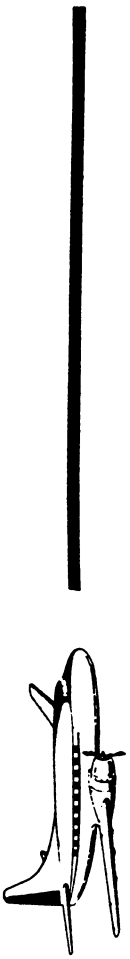


FIGURE 30. Aircraft Performance Curve, Takeoff (Lockheed 1649A)



MARTIN 202

PRATT & WHITNEY R2800-CA3 ENGINE
R2800-CA15
R2800-CA18

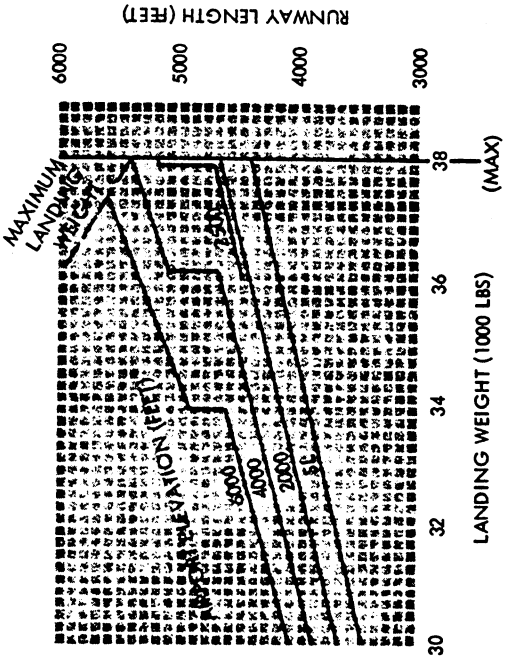


FIGURE 31. Aircraft Performance Curve, Landing (Martin 202)

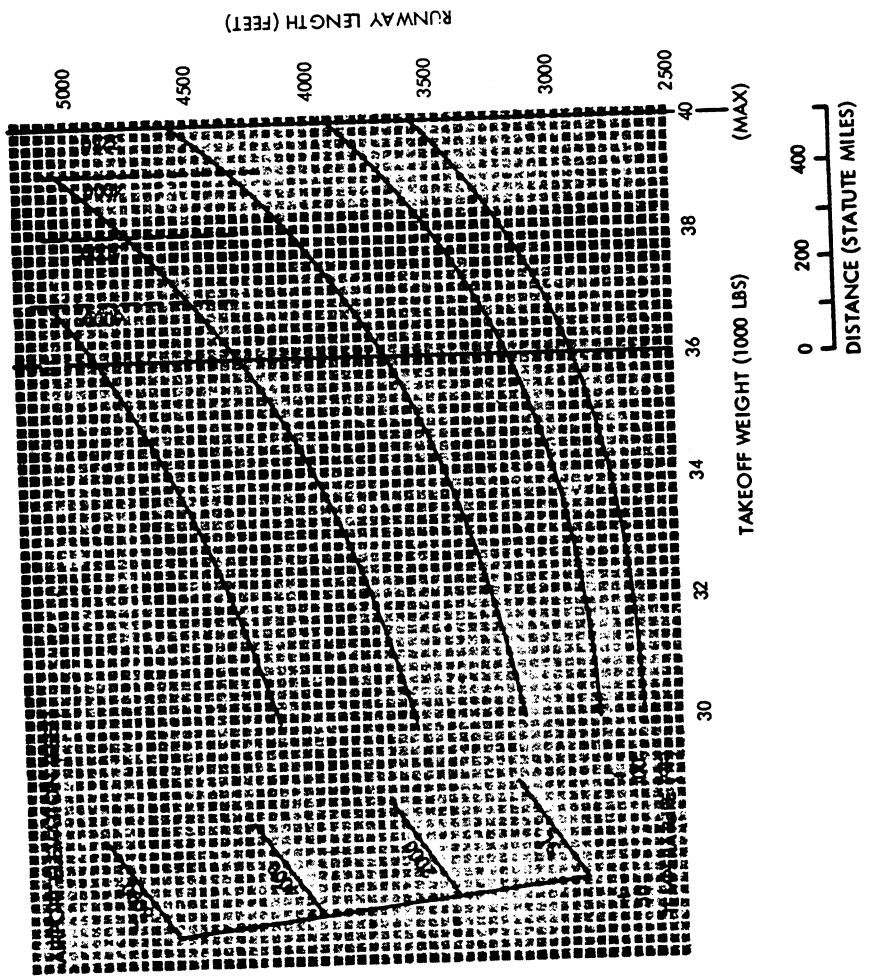


FIGURE 32. Aircraft Performance Curve, Takeoff (Martin 202)

MARTIN 404

PRATT & WHITNEY R2800-CB16 ENGINE

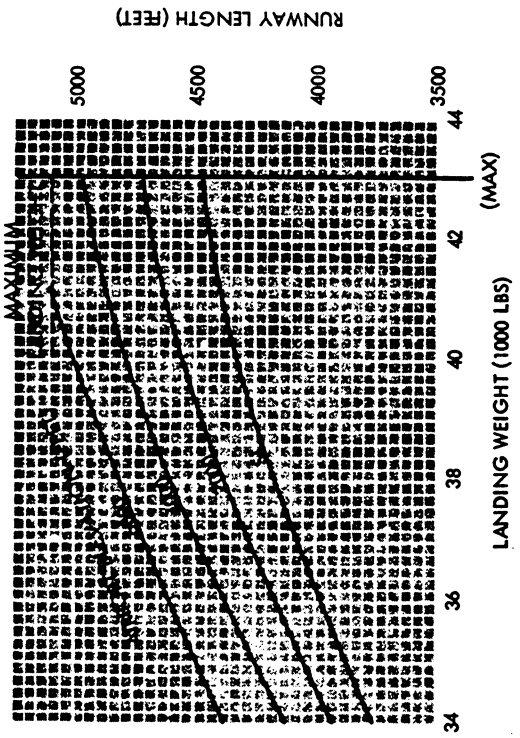


FIGURE 33. Aircraft Performance Curve, Landing (Martin 404)

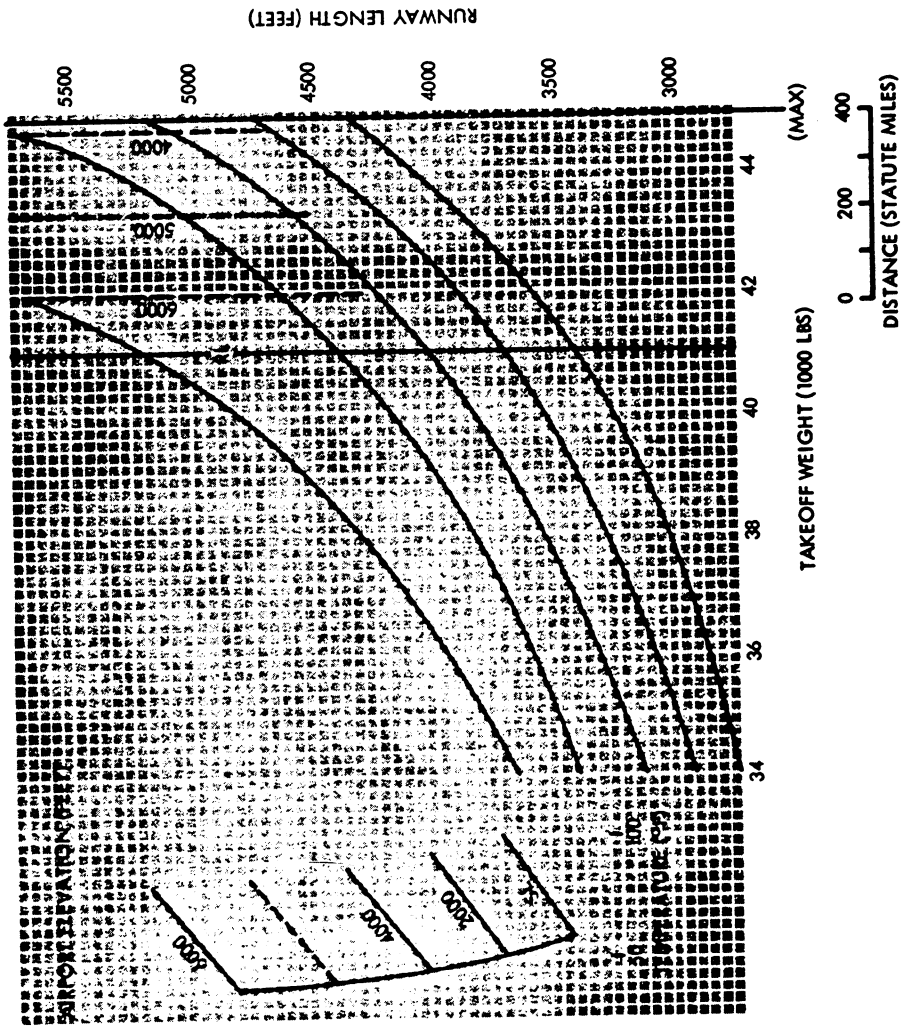
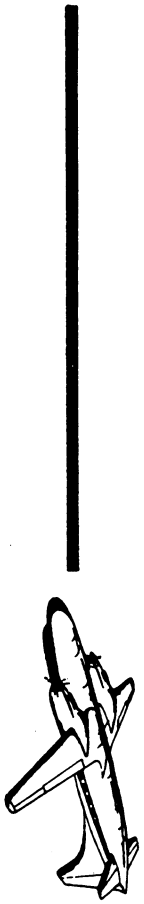


FIGURE 34. Aircraft Performance Curve, Takeoff (Martin 404)



CONVAIR 340/440

ALLISON 501-D13D ENGINE

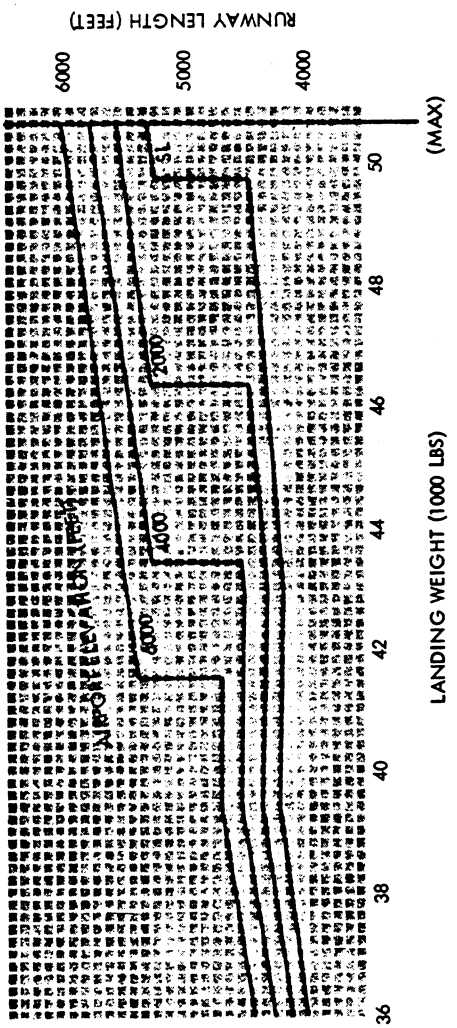


Figure 35. Aircraft Performance Curve, Landing (Convair 340/440) Allison

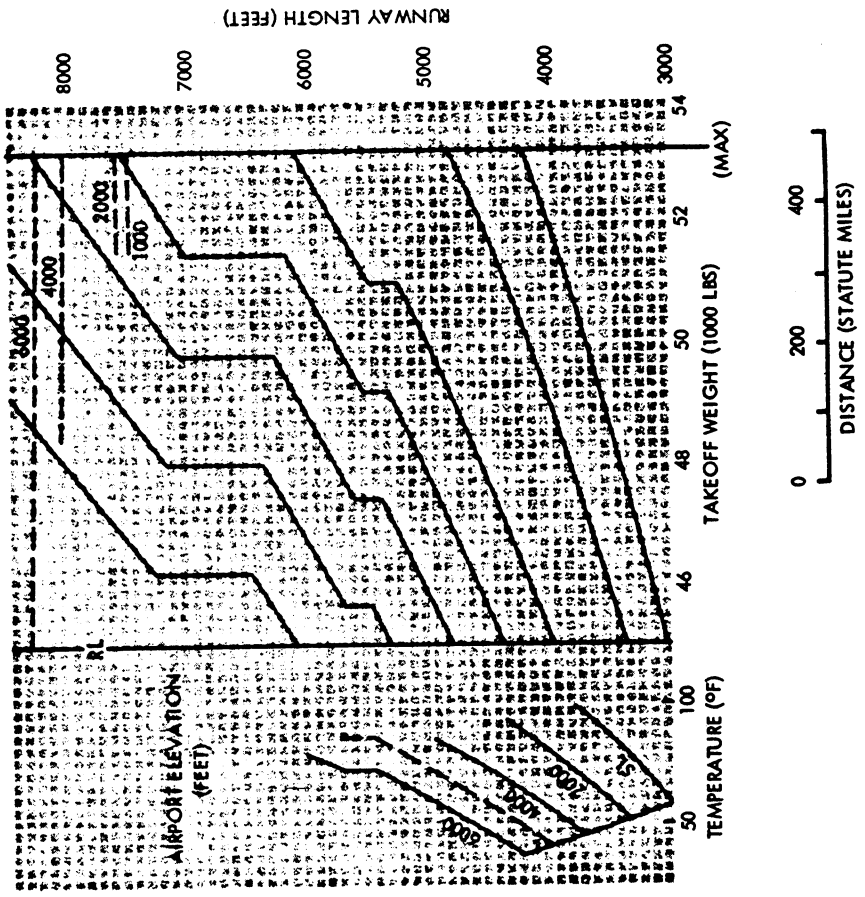
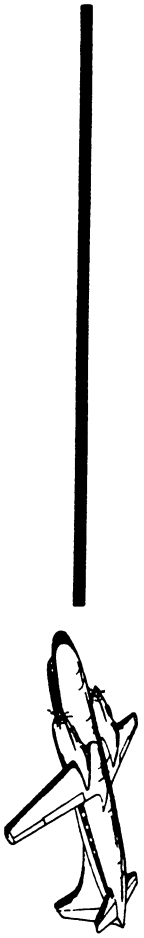


Figure 36. Aircraft Performance Curve, Takeoff (Convair 340/440) Allison



CONVAIR 340/440

ALLISON 501-D13H ENGINE

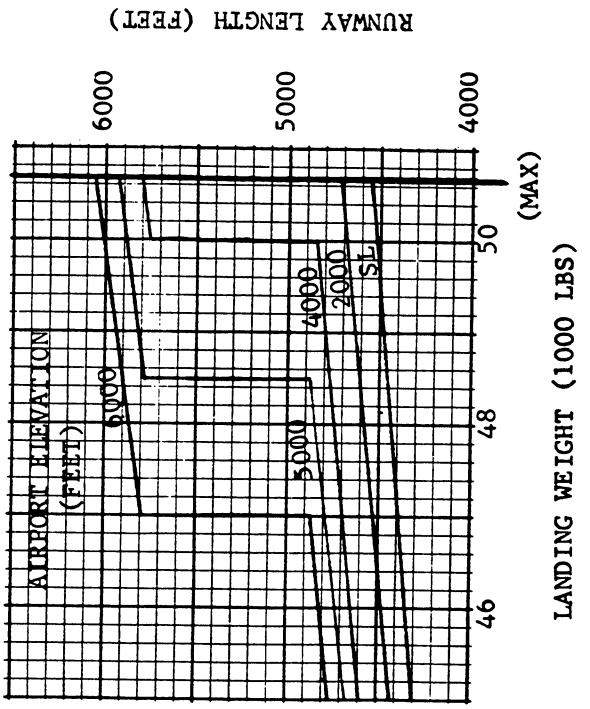


Figure 37. Aircraft Performance Curve, Landing (Convair 340/440) Allison

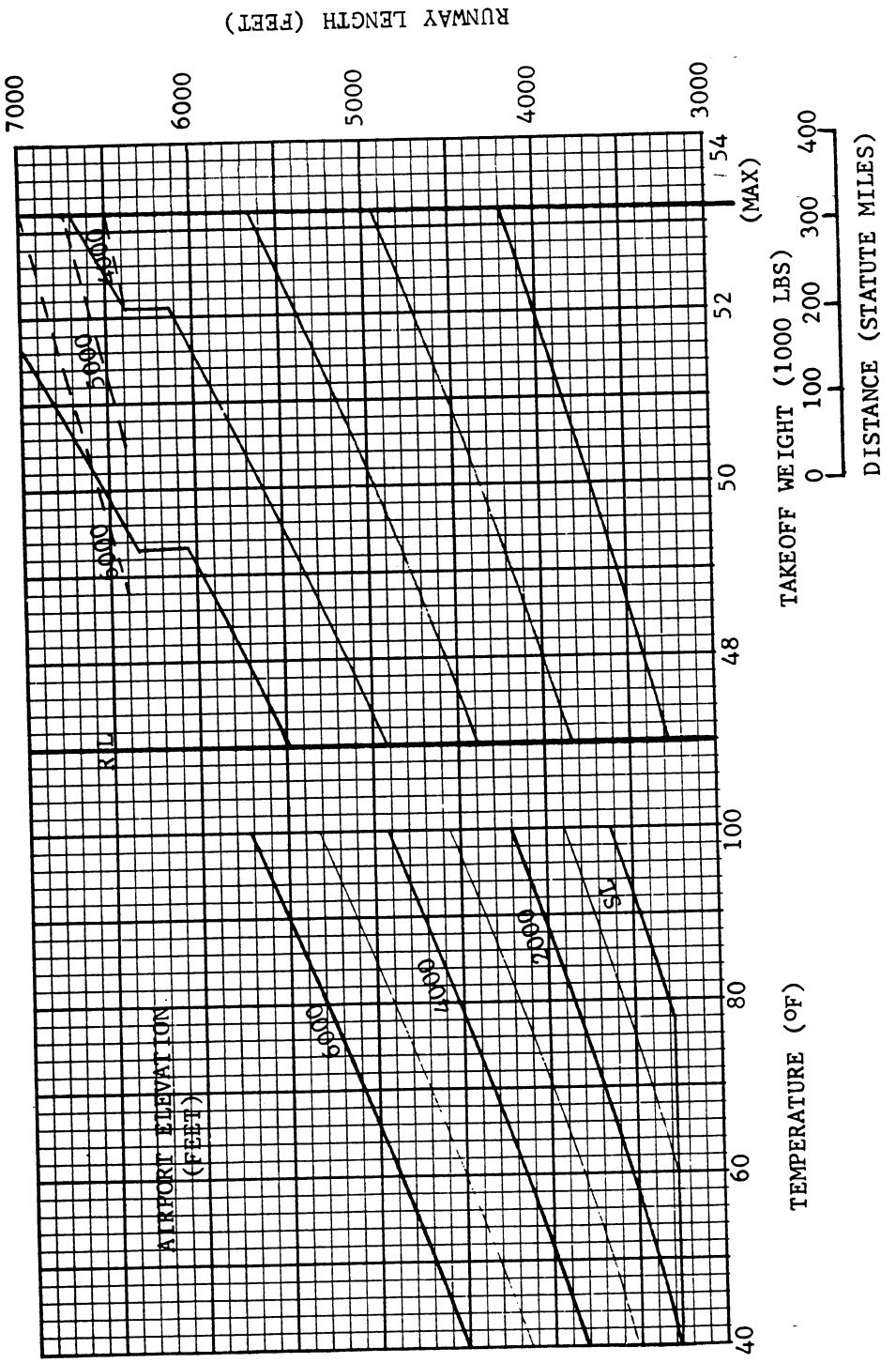


Figure 38. Aircraft Performance Curve, Takeoff (Convair 340/440) Allison

CONVAIR 340/440

NAPIER ELAND 504 ENGINE

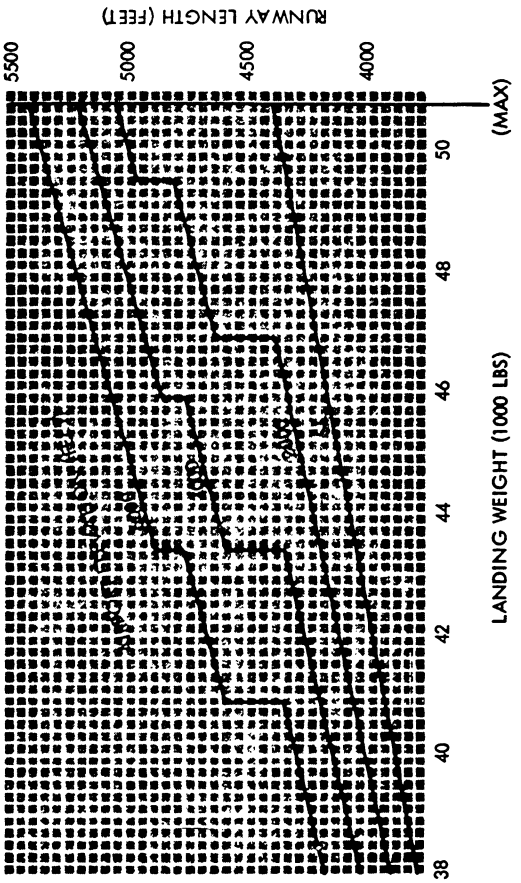


Figure 39. Aircraft Performance Curve, Landing (Convair 340/440) Napier

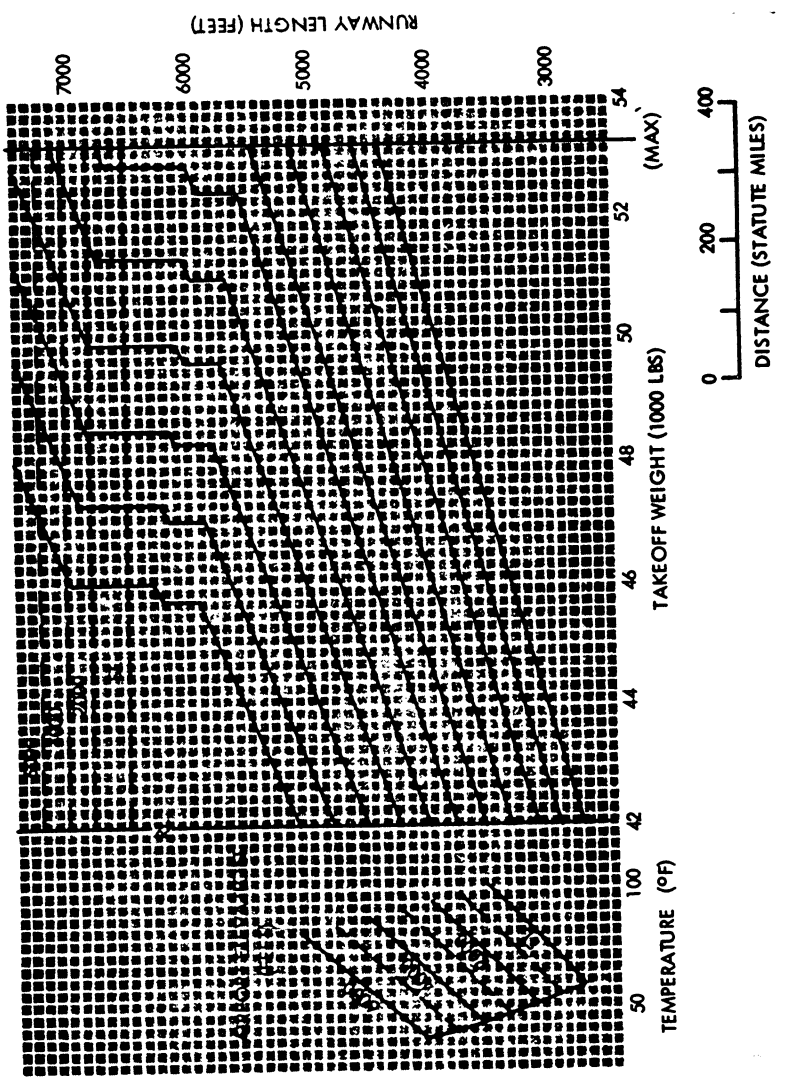
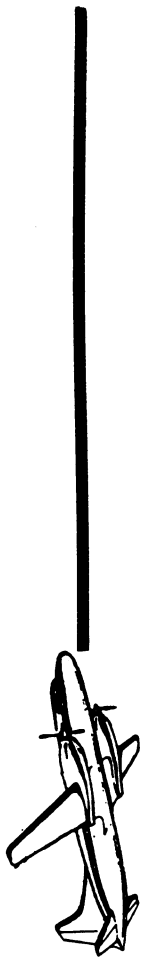


Figure 40. Aircraft Performance Curve, Takeoff (Convair 340/440) Napier



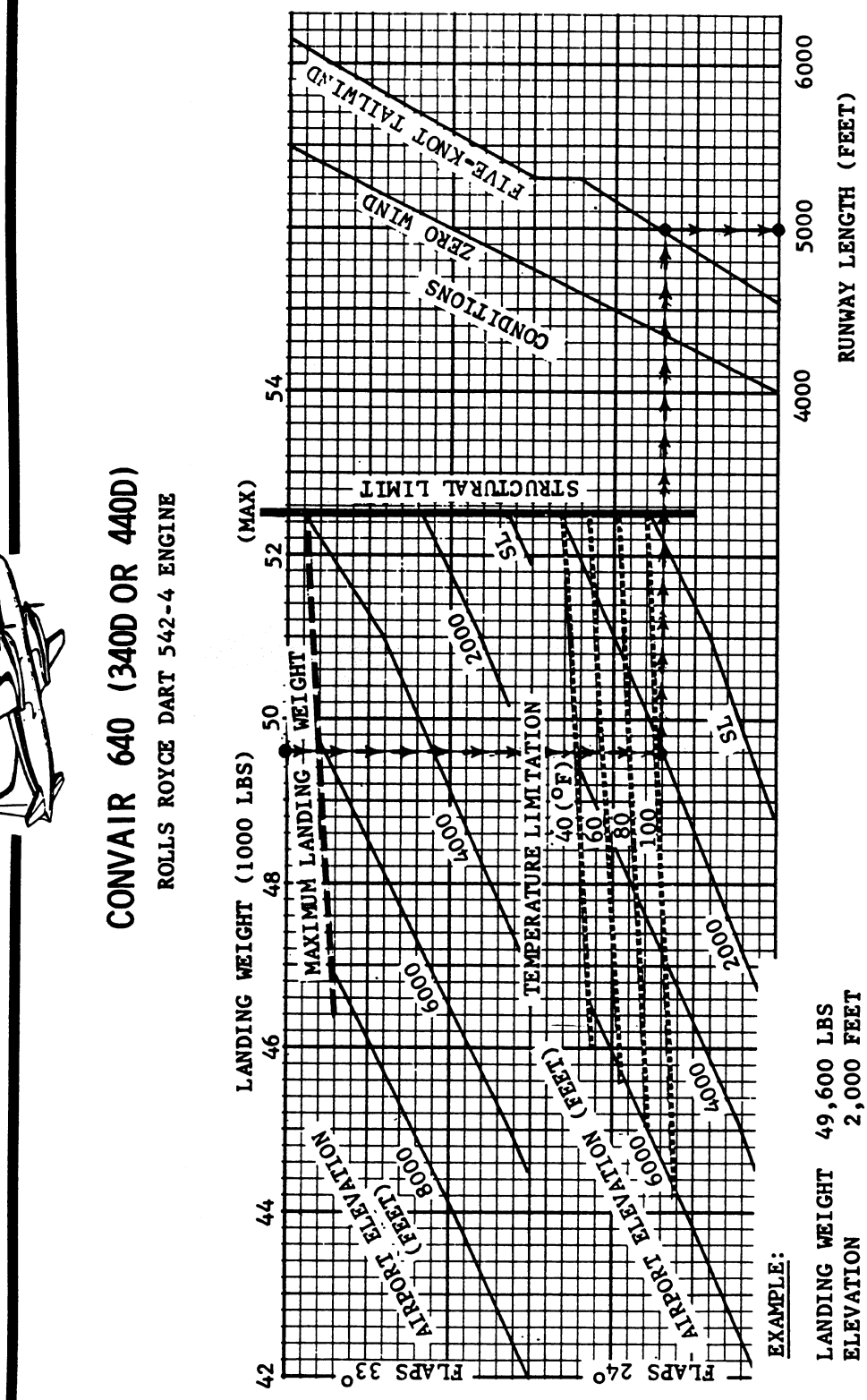


Figure 41. Aircraft Performance Curve, Landing [Convair 640 (340D or 440D) Incorporating the Modification of Service Bulletin 640 (340D) No. 95-1 and 95-3]

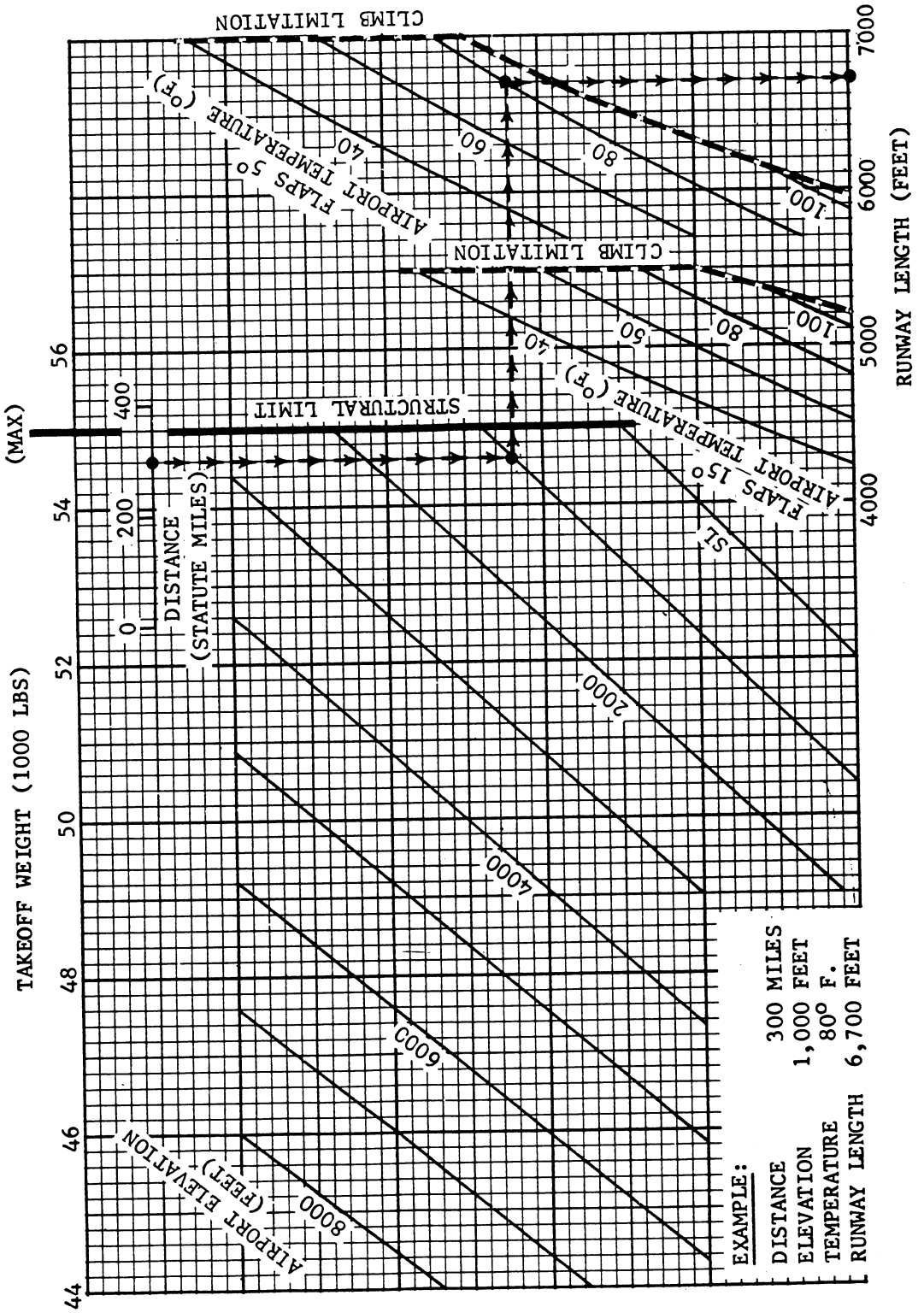


Figure 42. Aircraft Performance Curve, Takeoff [Convair 640 (340D or 440D) Incorporating the Modification of Service Bulletin 640 (340D) No. 95-1 and 95-3]

FAIRCHILD F-27 & F-27B

ROLLS ROYCE DART 511 ENGINE
511-7E

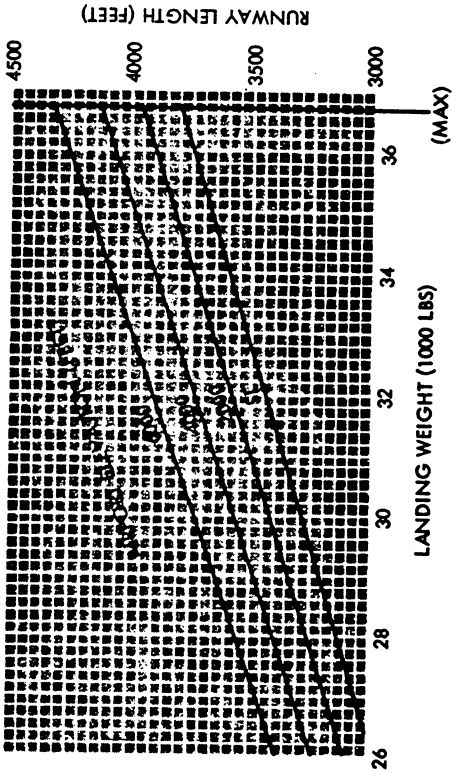


Figure 43. Aircraft Performance Curve, Landing (Fairchild F-27 & F-27B)

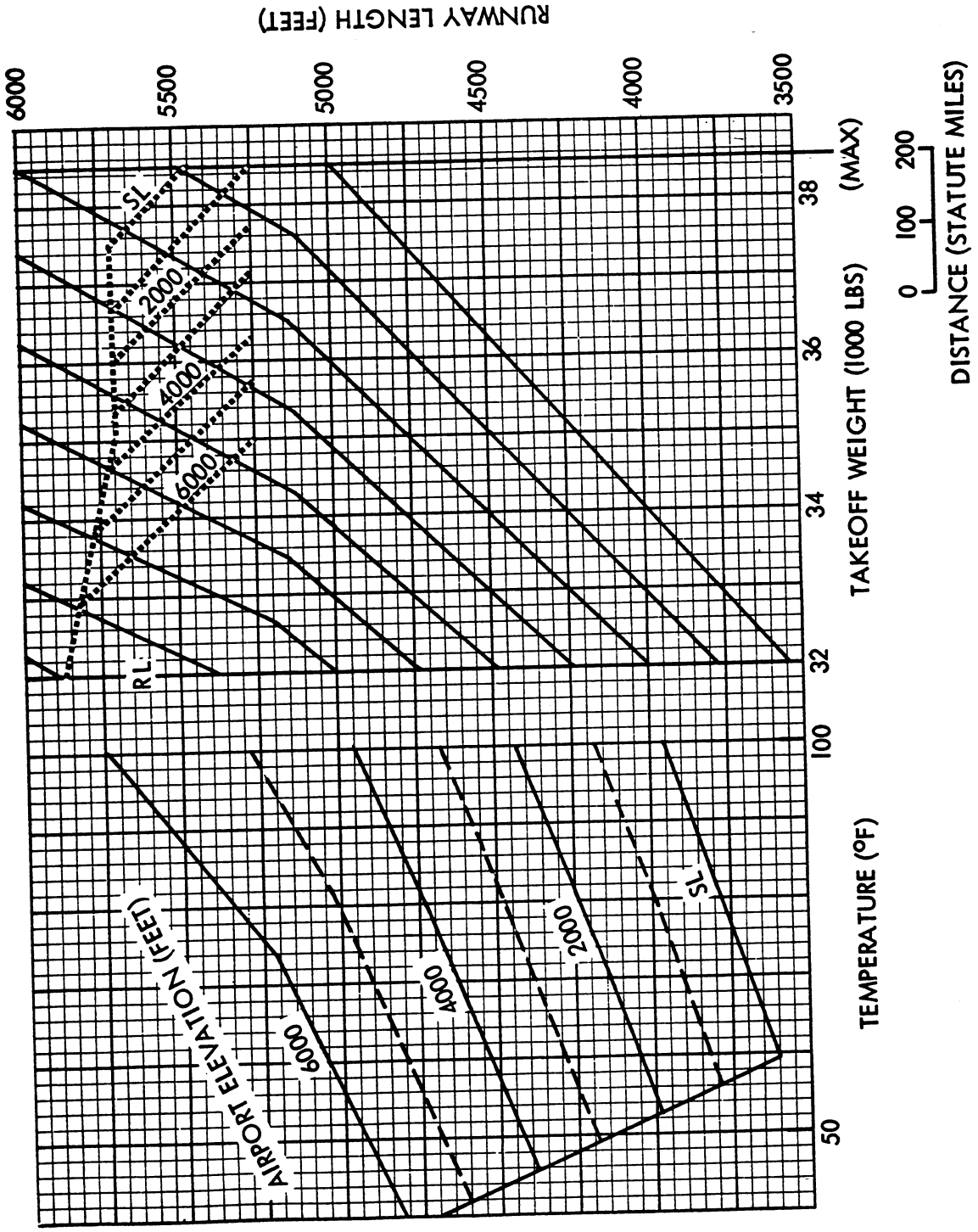
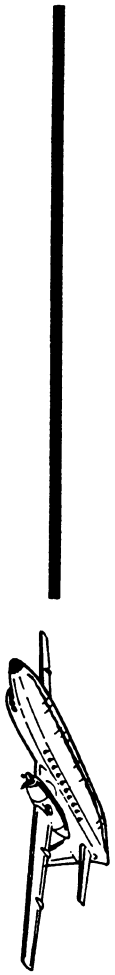


Figure 44. Aircraft Performance Curve, Takeoff (Fairchild F-27 & F-27B)



FAIRCHILD F-27 & F-27B

ROLLS ROYCE DART 514-7 ENGINE
514-7E

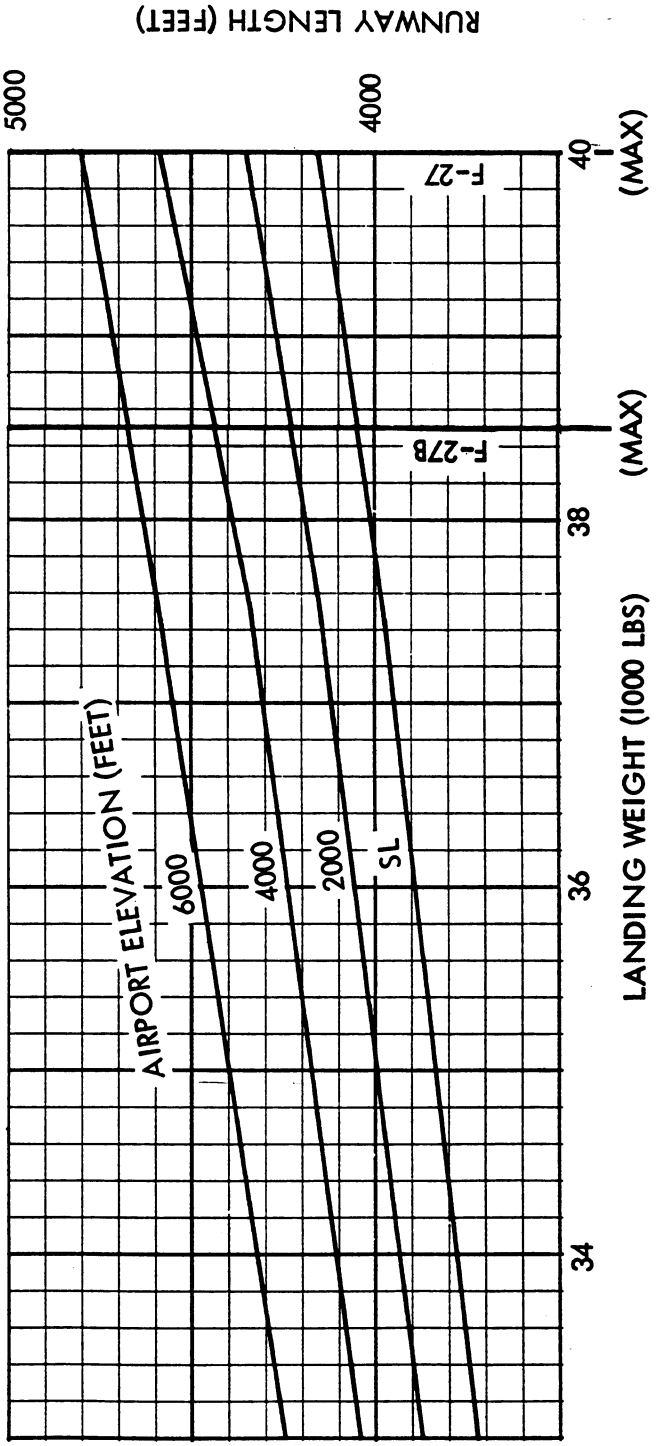


Figure 45. Aircraft Performance Curve, Landing (Fairchild F-27 & F-27B)

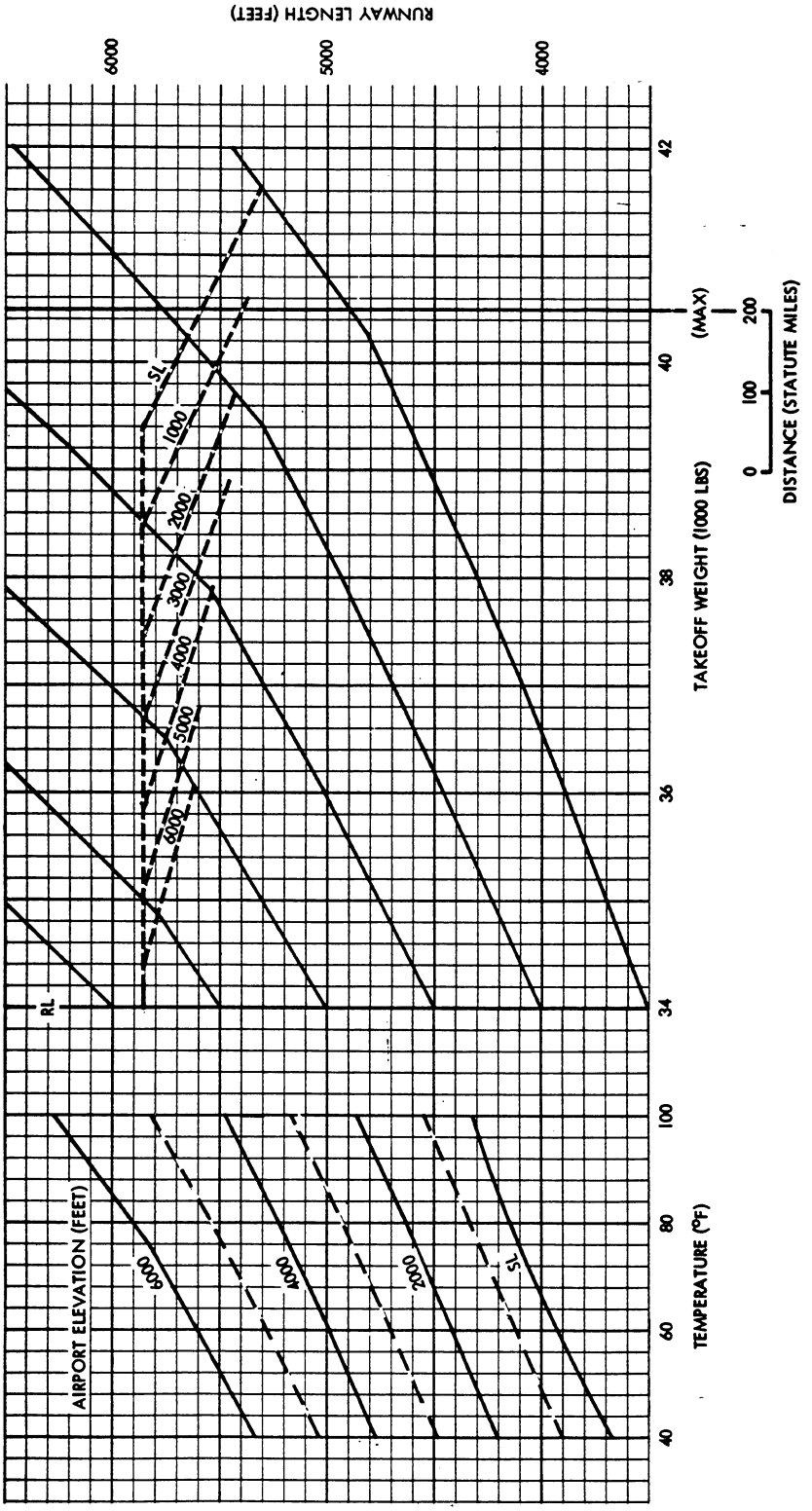


Figure 46. Aircraft Performance Curve, Takeoff (Fairchild F-27 & F-27B)

FAIRCHILD F-27A

ROLLS ROYCE DART 528-7E ENGINE

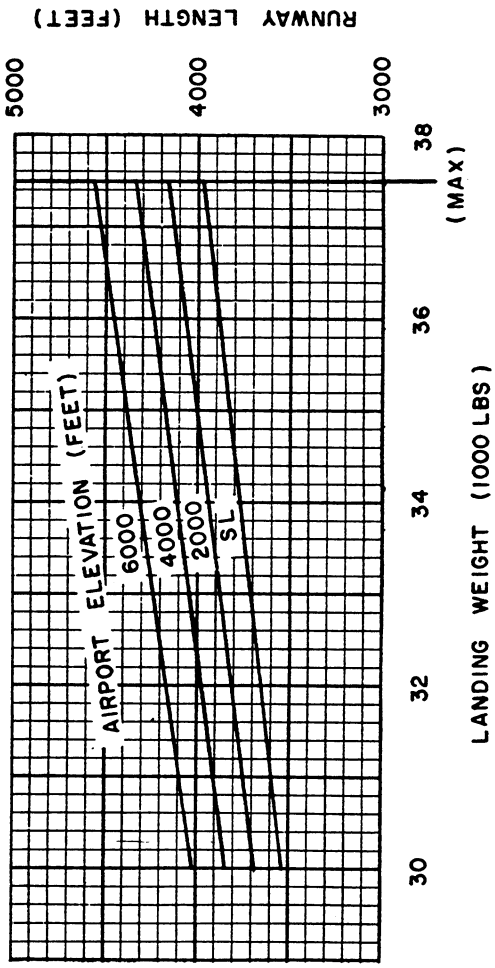


Figure 47. Aircraft Performance Curve, Landing (Fairchild F-27A)

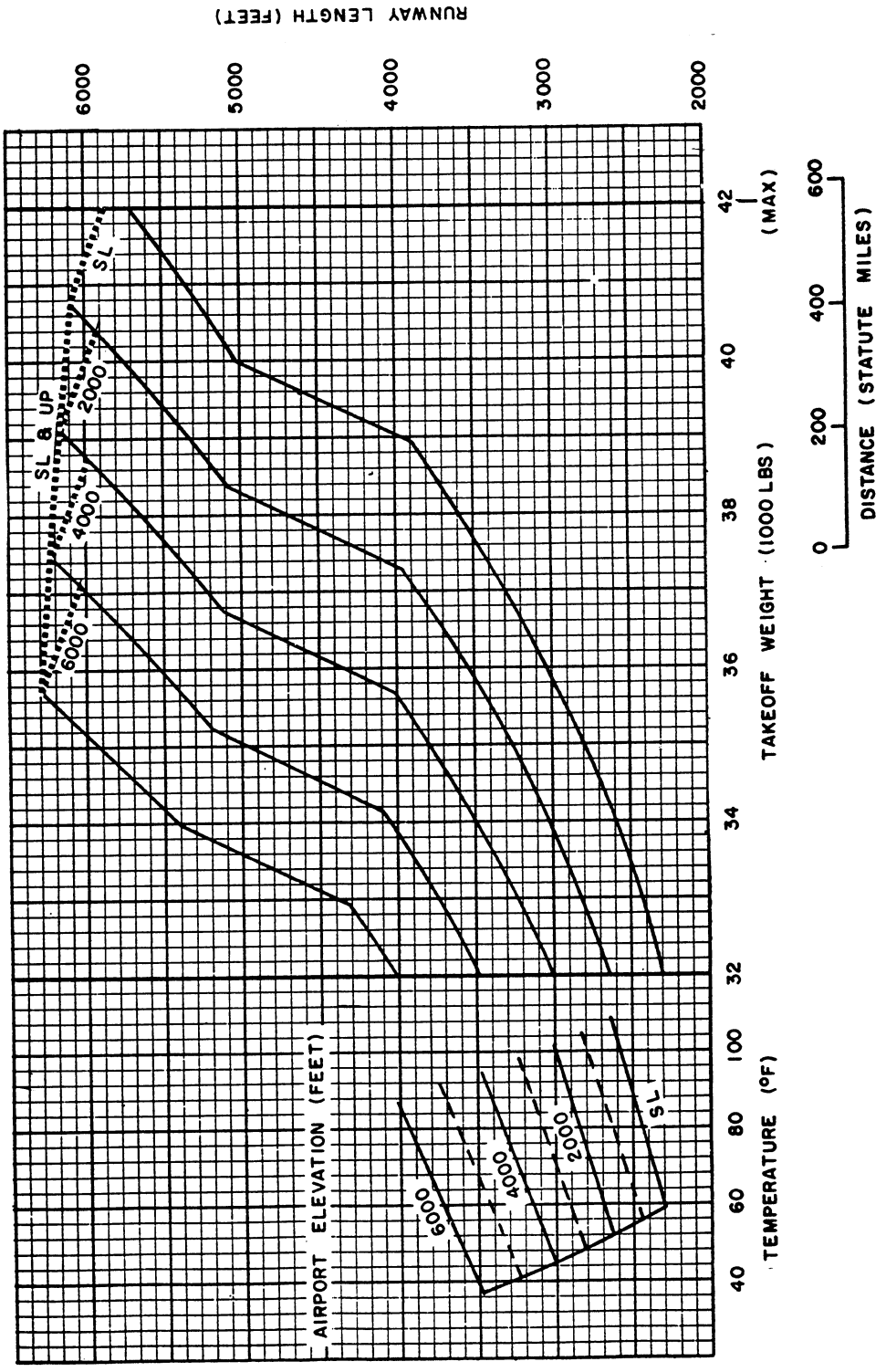


Figure 48. Aircraft Performance Curve, Takeoff (Fairchild F-27A)

FAIRCHILD F-27J

ROLLS ROYCE DART 532-7 ENGINE

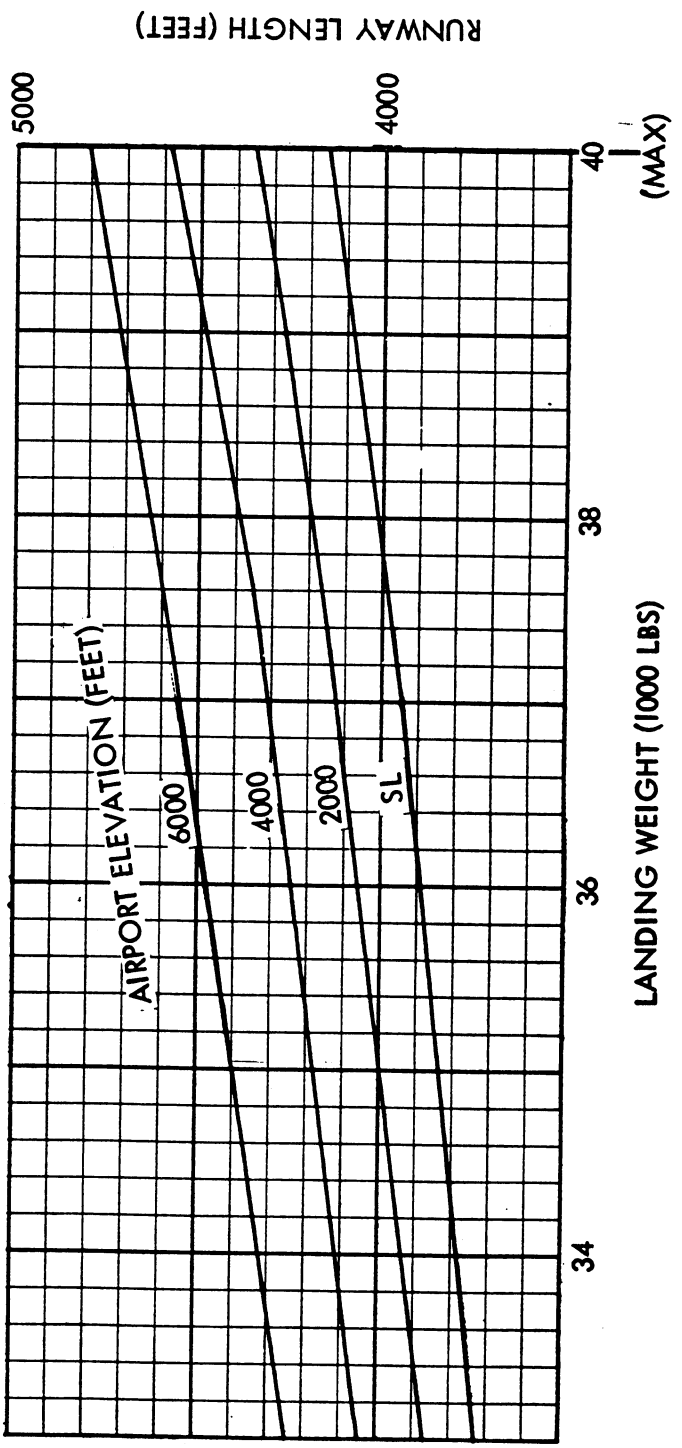


Figure 49. Aircraft Performance Curve, Landing (Fairchild F-27J)

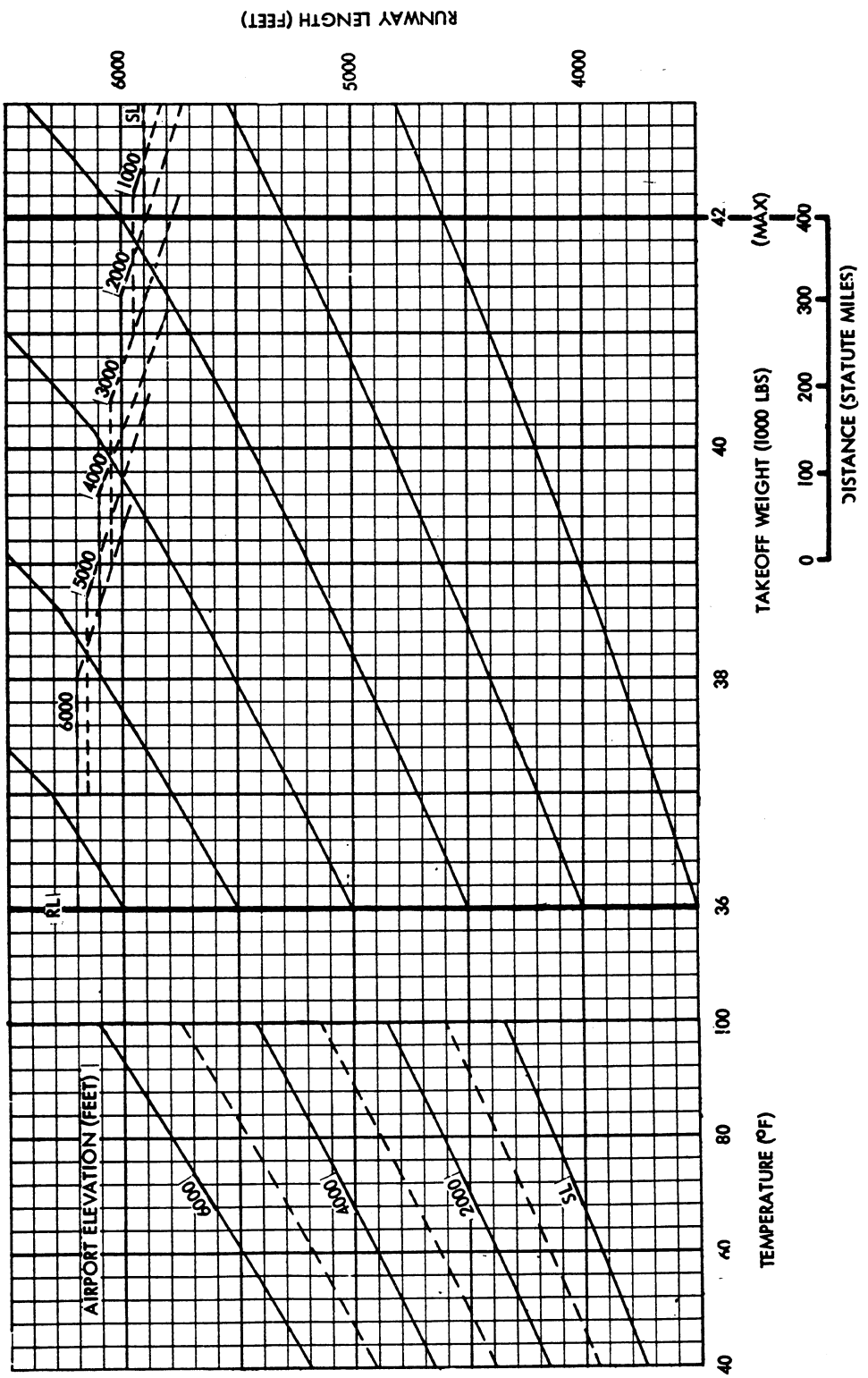
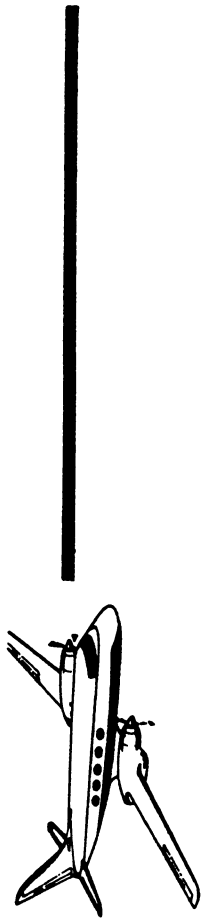


Figure 50. Aircraft Performance Curve, Takeoff (Fairchild F-27J)



GRUMMAN G-159

ROLLS ROYCE DART 529 (RDa-7/2) ENGINE

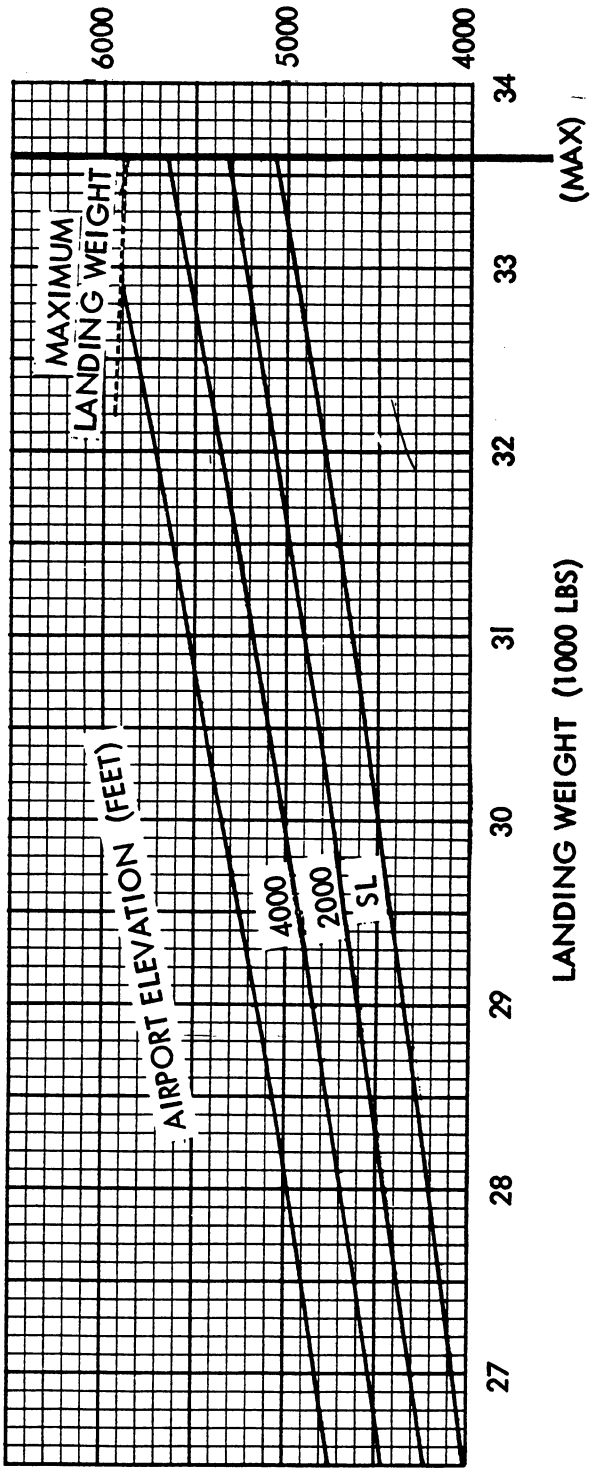


Figure 51. Aircraft Performance Curve, Landing (Grumman G-159)

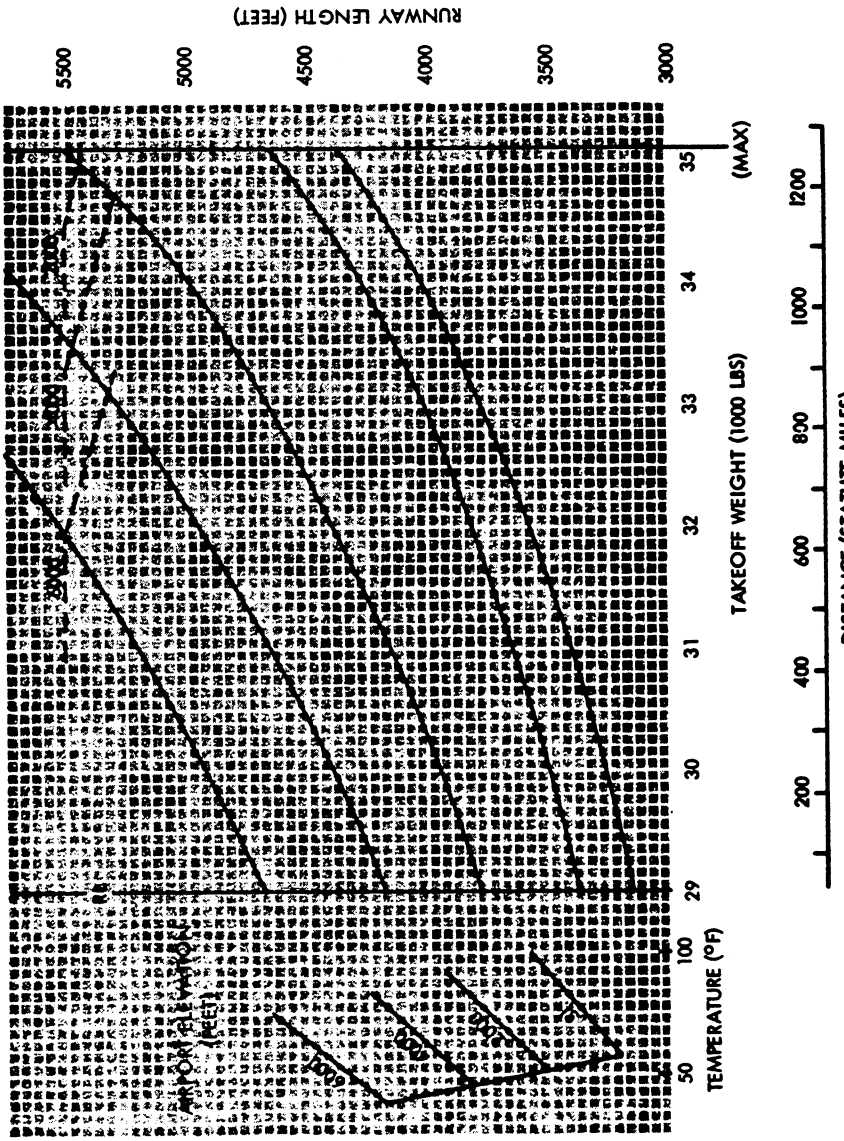


Figure 52. Aircraft Performance Curve, Takeoff (Grumman G-159)

LOCKHEED 188A & 188C

ALLISON 501-D13 ENGINE
501-D13A

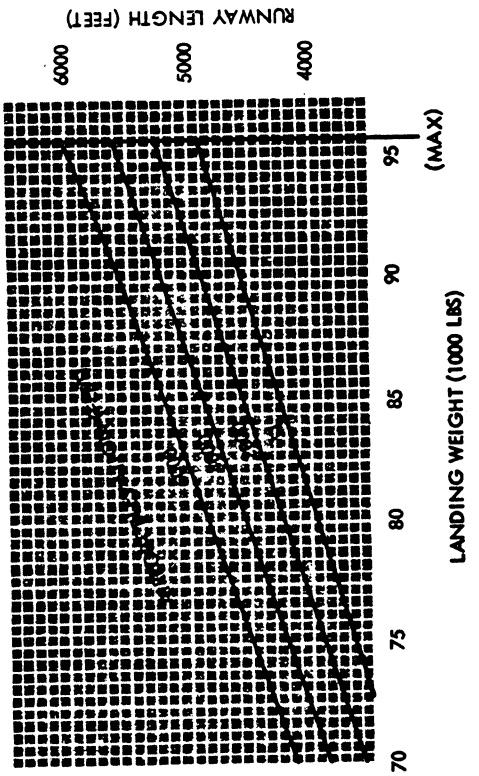


Figure 53. Aircraft Performance Curve, Landing (Lockheed 188A & 188C)

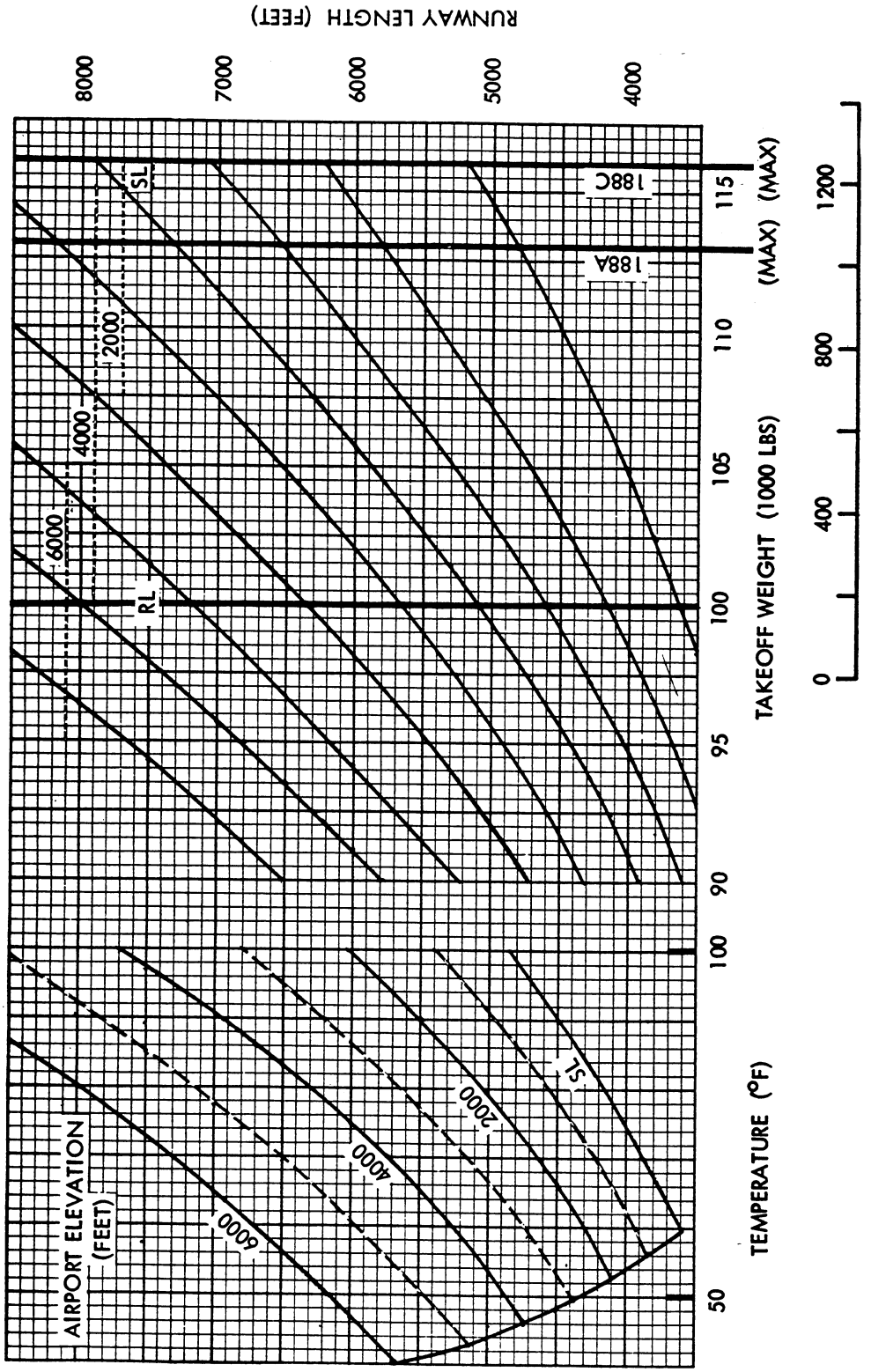
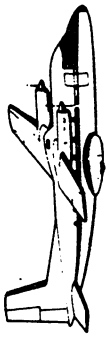


Figure 54. Aircraft Performance Curve, Takeoff (Lockheed 188A & 188C)



NORD 262

TURBOMECA BASTAN VI C1 ENGINE

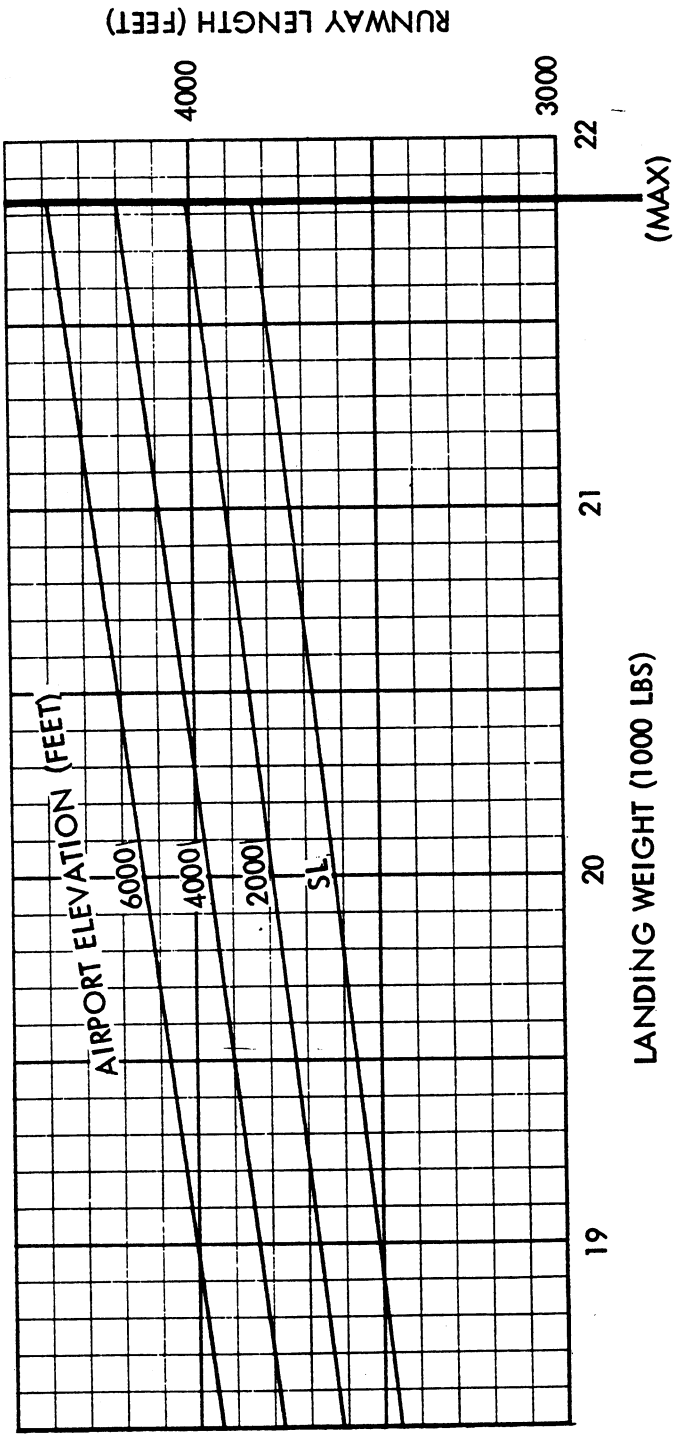


Figure 55. Aircraft Performance Curve, Landing (Nord 262)

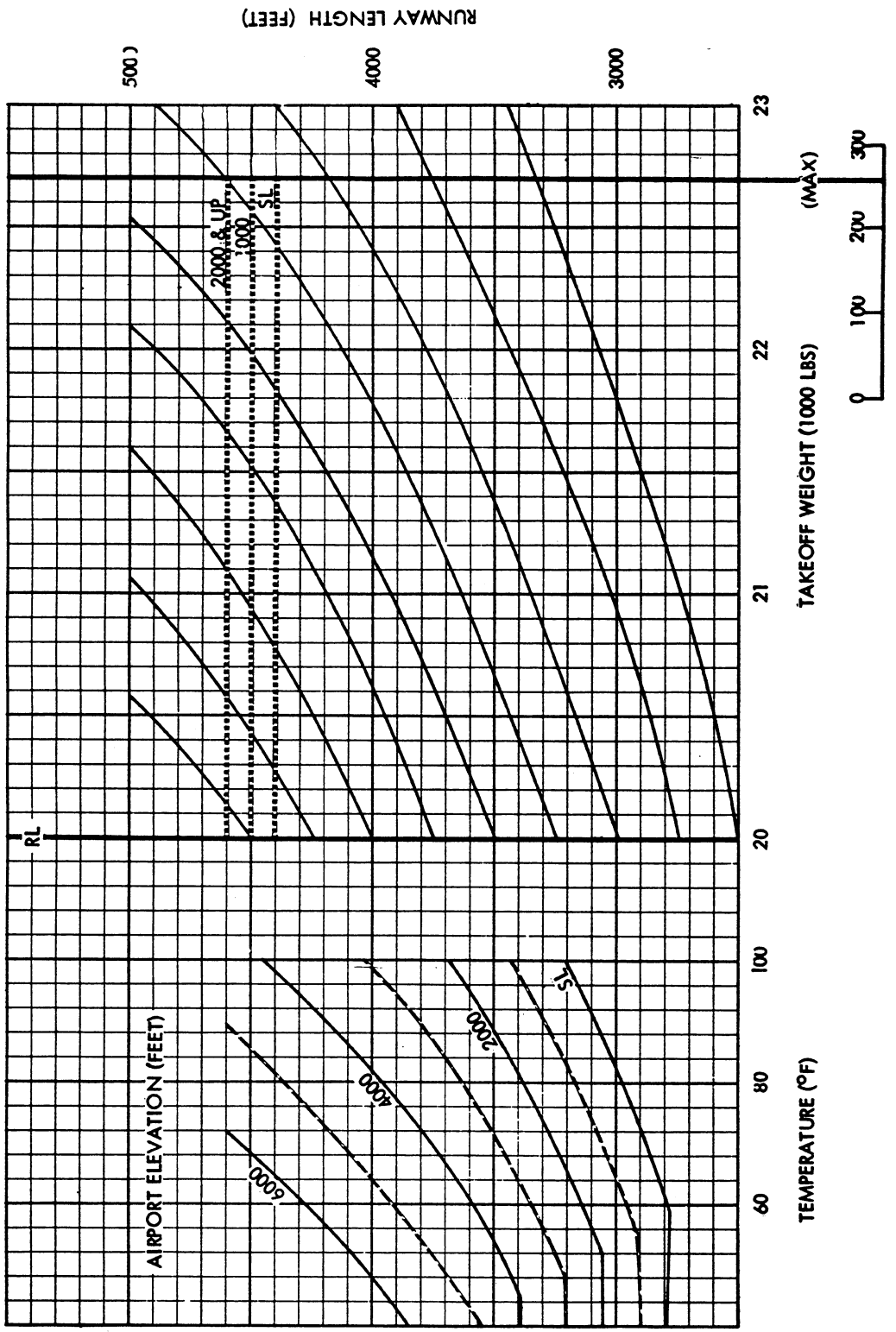
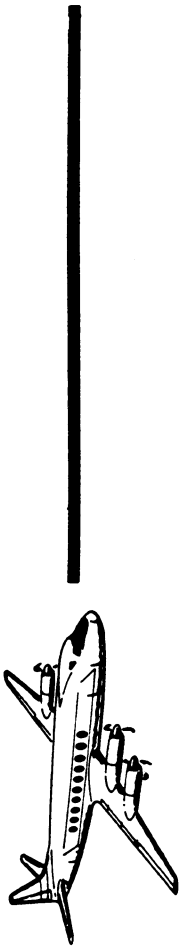


Figure 56. Aircraft Performance Curve, Takeoff (Nord 262)



VICKERS VISCOUNT 745D

ROLLS ROYCE DART 510 ENGINE

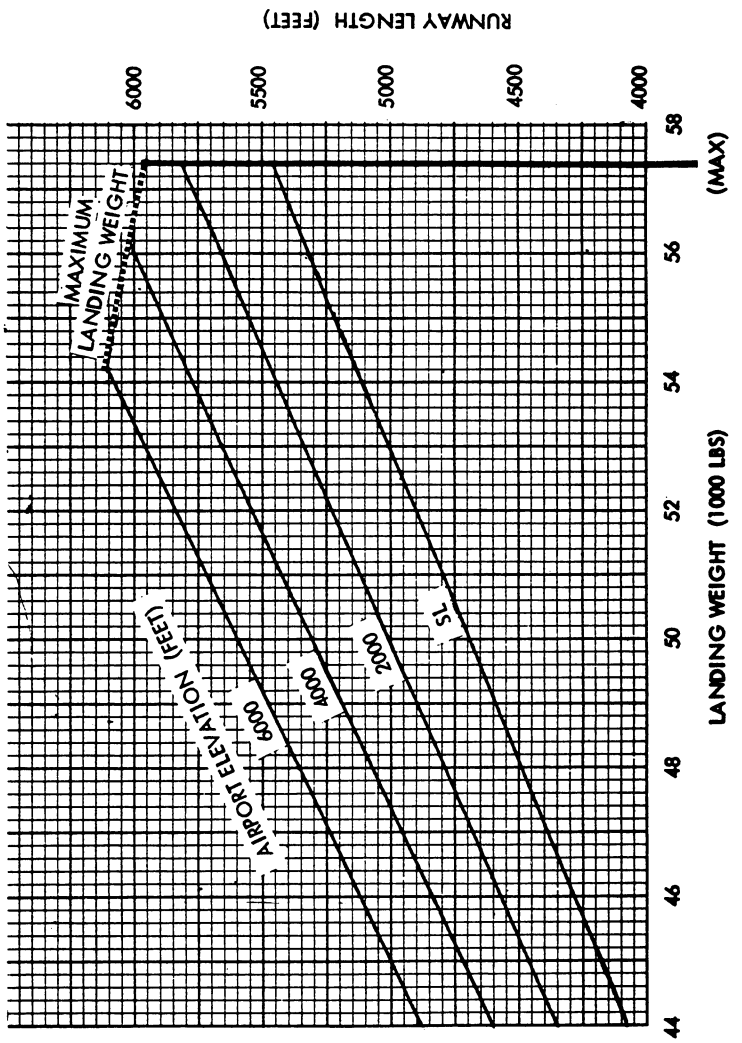


Figure 57. Aircraft Performance Curve, Landing (Vickers Viscount 745D)

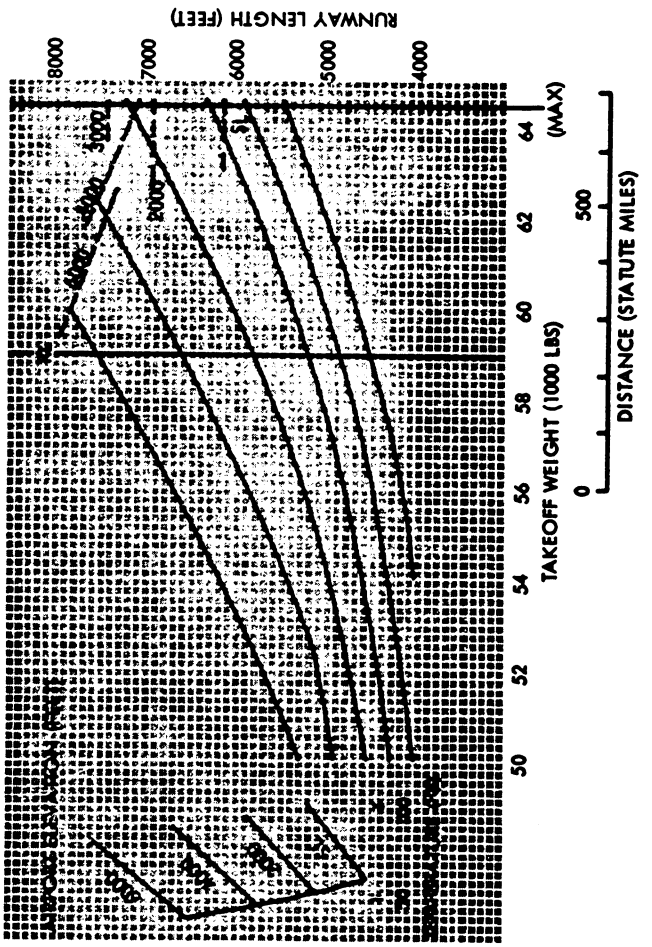
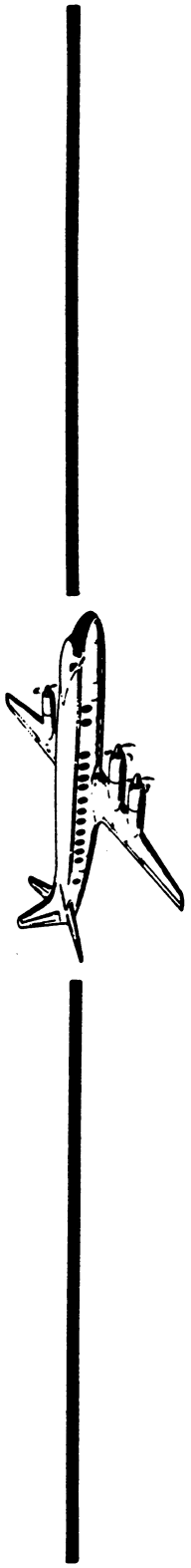


Figure 58. Aircraft Performance Curve, Takeoff (Vickers Viscount 745D)



VICKERS VISCOUNT 810

ROLLS ROYCE DART 525 ENGINE

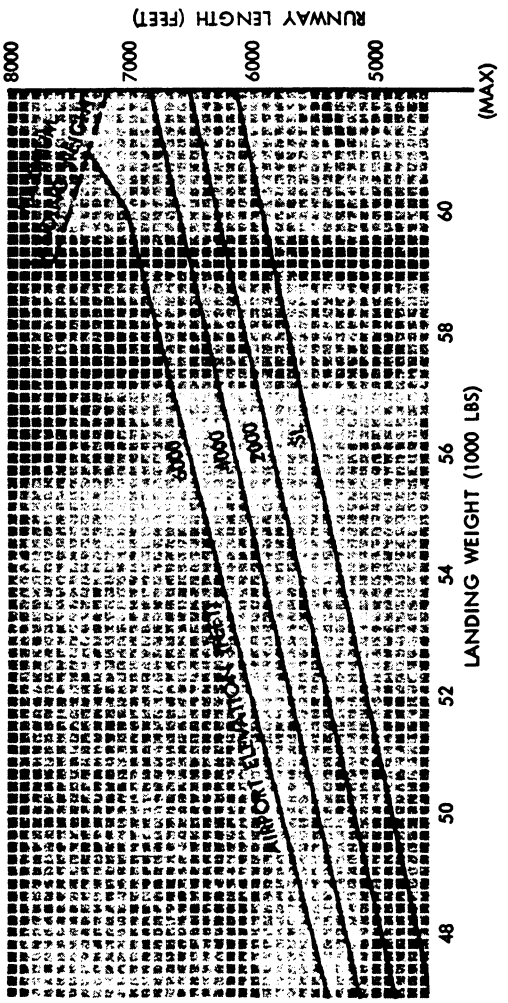


Figure 59. Aircraft Performance Curve, Landing (Vickers Viscount 810)

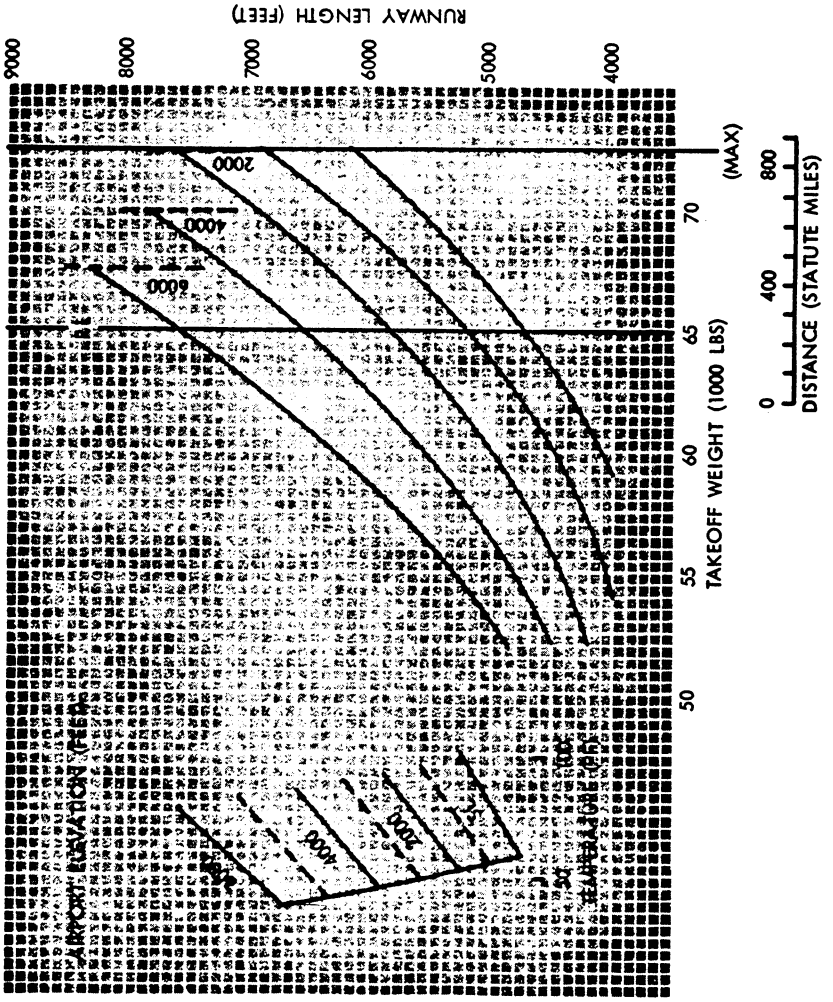


Figure 60. Aircraft Performance Curve, Takeoff (Vickers Viscount 810)

APPENDIX 2. TURBOJET-, TURBOFAN-, AND AFTFAN-POWERED LARGE AIRPLANES

1. AIRPLANE PERFORMANCE CURVES. The data curves contained in this appendix are for large turbojet-powered airplanes (figures 1 - 30) and large turbofan- and aftfan-powered airplanes (figures 31 - 52).

2. EXPLANATORY INSTRUCTIONS. See chapter 2 for explanatory instructions on the use of the data curves.

BOEING 707-100 SERIES

PRATT & WHITNEY JT3C-6 ENGINE

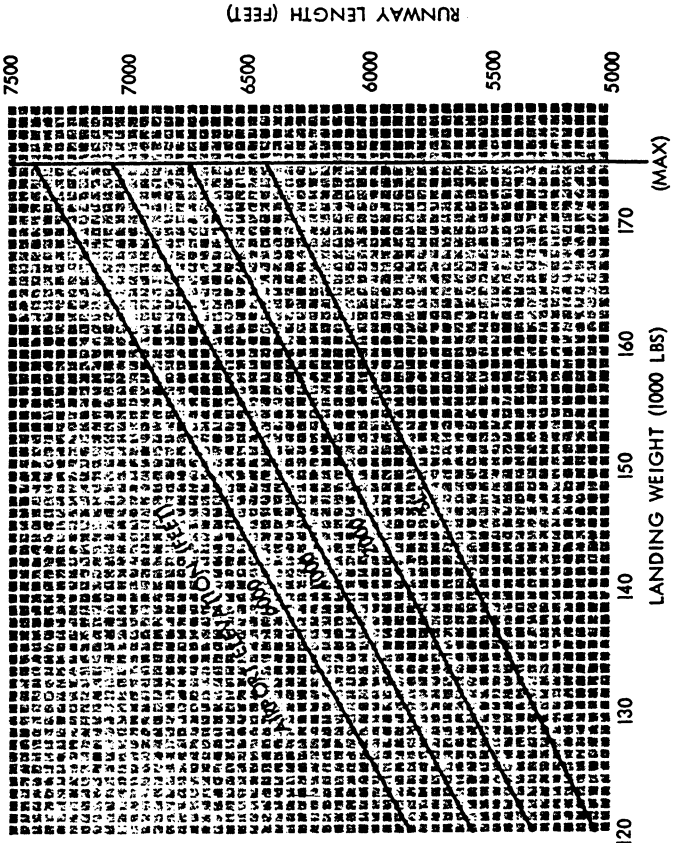


FIGURE 1. Aircraft Performance Curve, Landing (Boeing 707-100 Series)

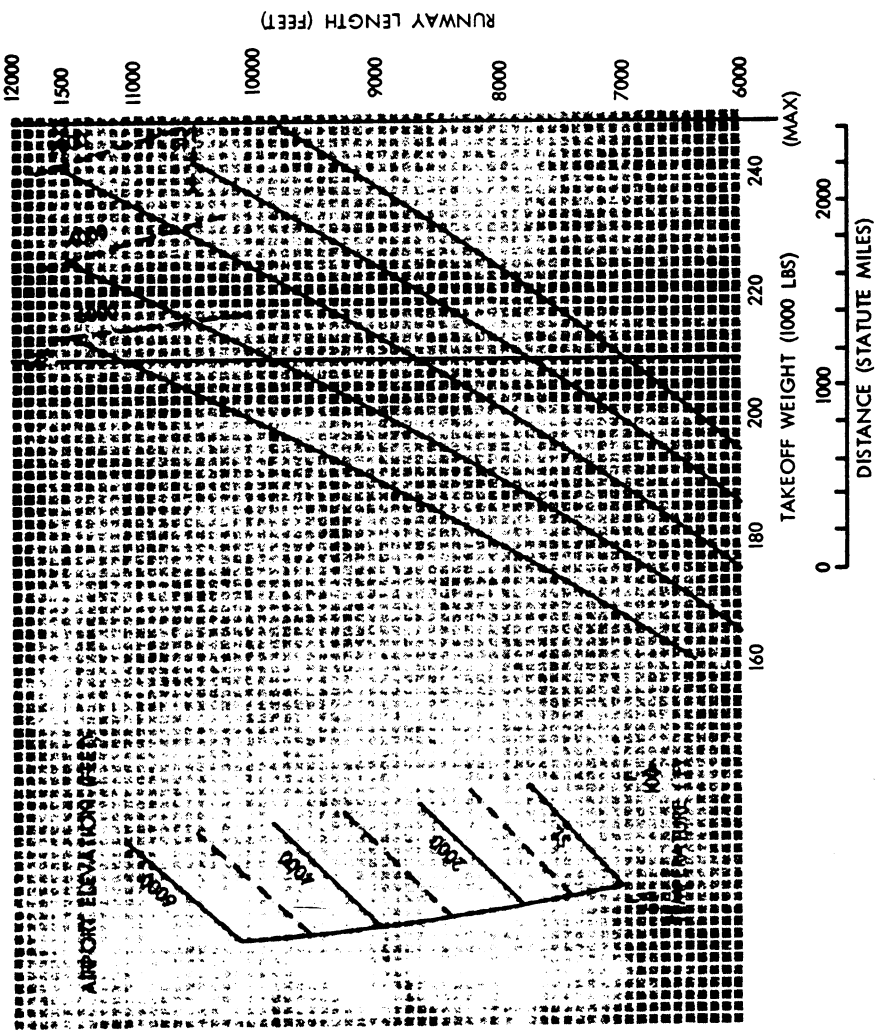


FIGURE 2. Aircraft Performance Curve, Takeoff (Boeing 707-100 Series)

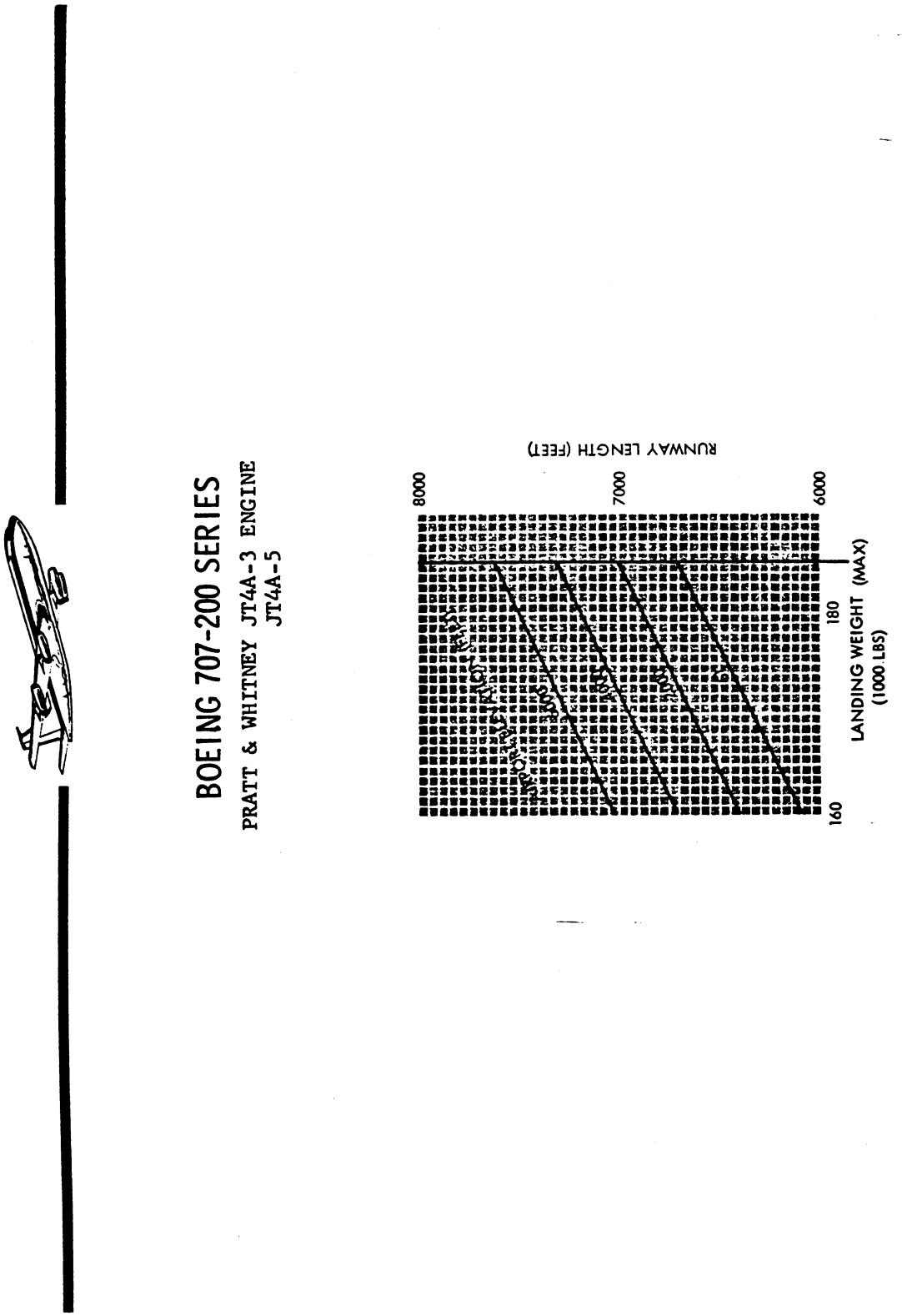


FIGURE 3. Aircraft Performance Curve, Landing (Boeing 707-200 Series)

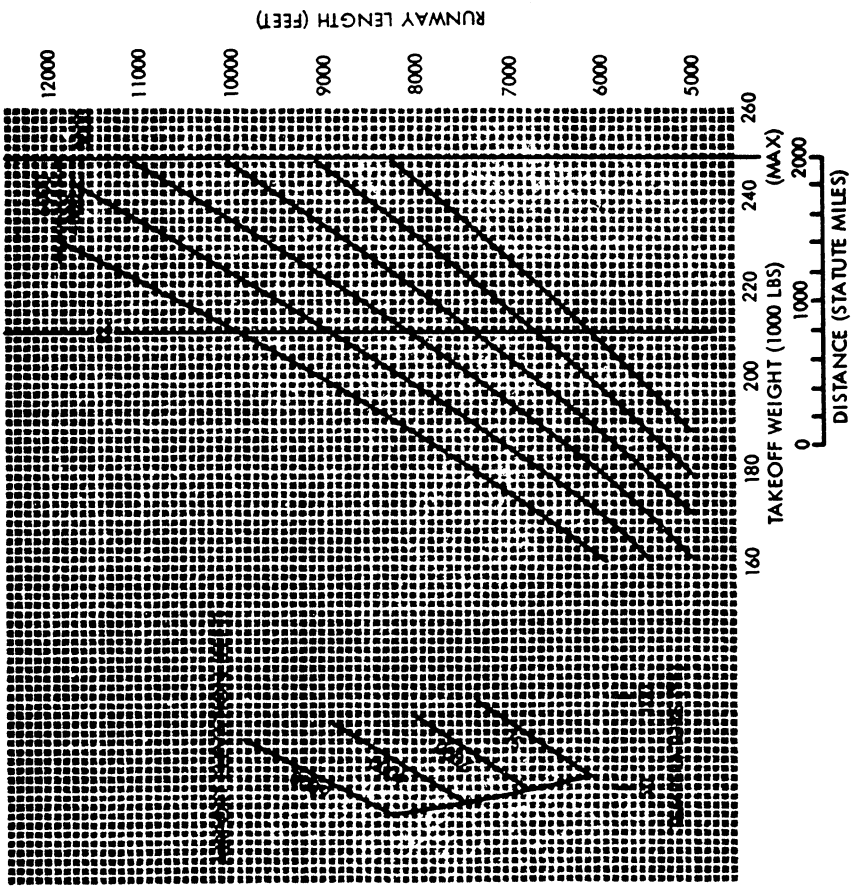


FIGURE 4. Aircraft Performance Curve, Takeoff (Boeing 707-200 Series)

BOEING 707-300 SERIES

PRATT & WHITNEY JT4A-3 ENGINE
JT4A-5

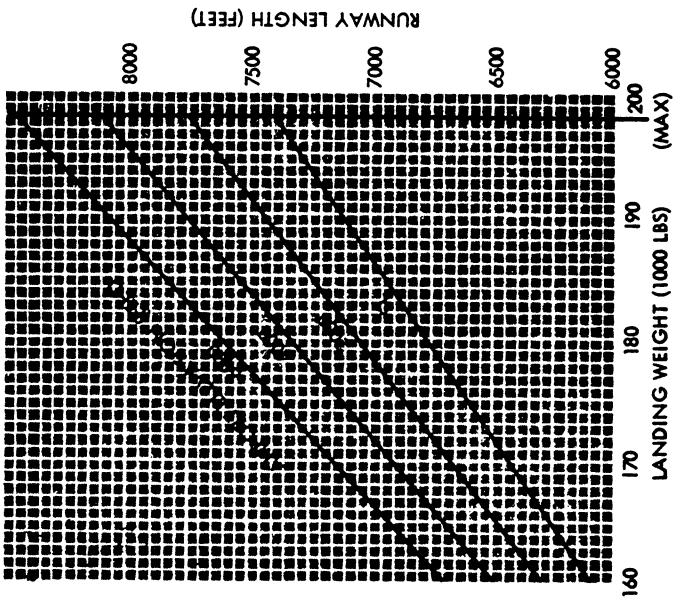


FIGURE 5. Aircraft Performance Curve, Landing (Boeing 707-300 Series)

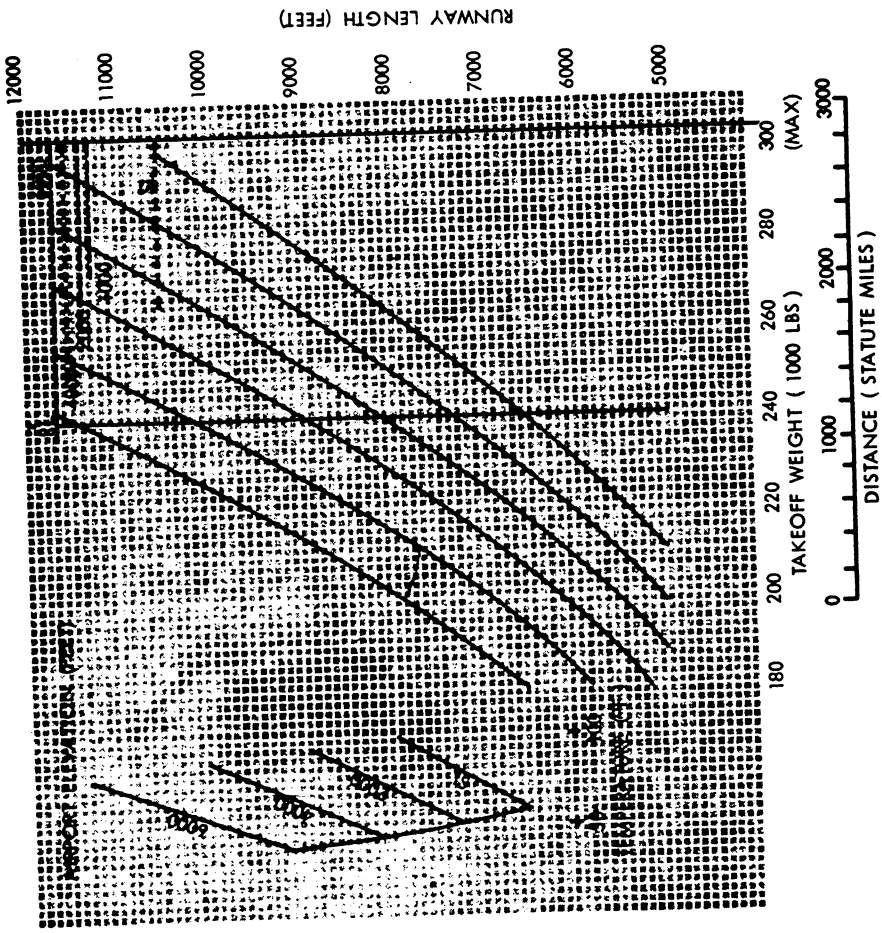


FIGURE 6. Aircraft Performance Curve, Takeoff (Boeing 707-300 Series)

BOEING 707-300 SERIES

PRATT & WHITNEY JT4A-11 ENGINE
JT4A-12

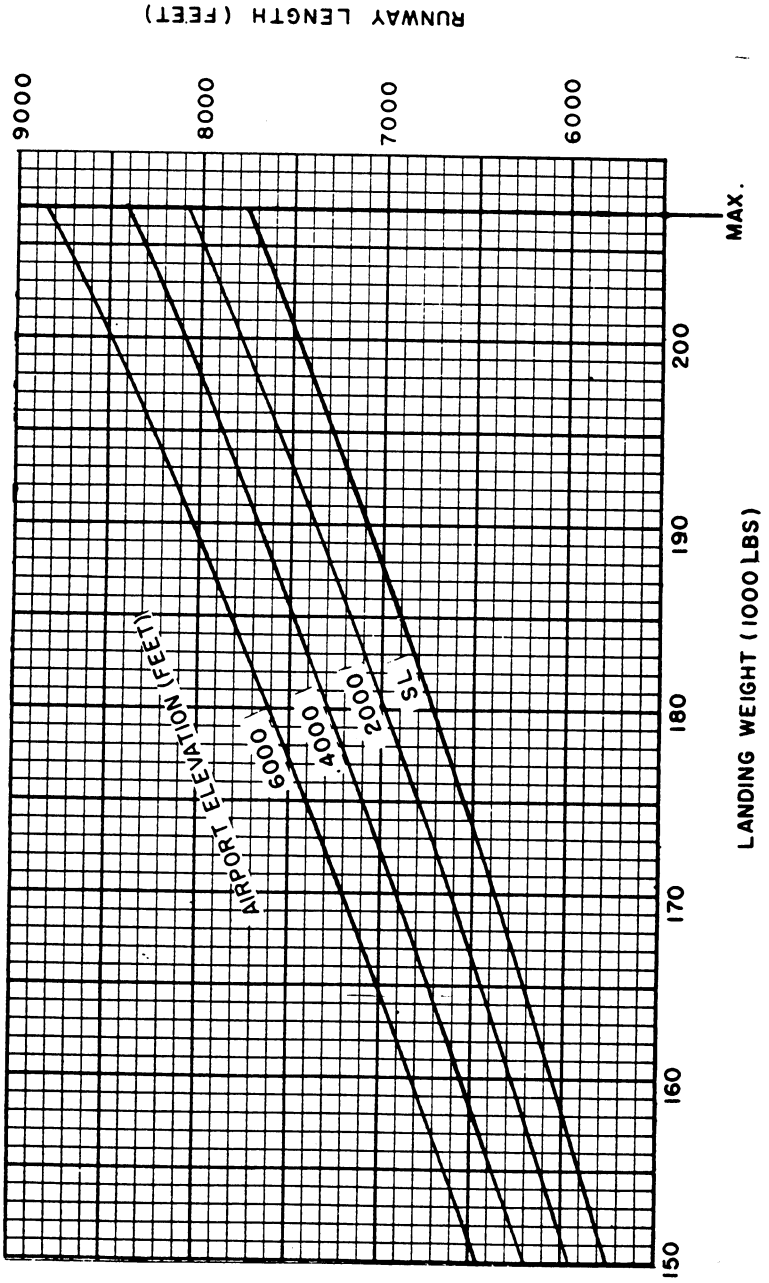


FIGURE 7. Aircraft Performance Curve, Landing (Boeing 707-300 Series)

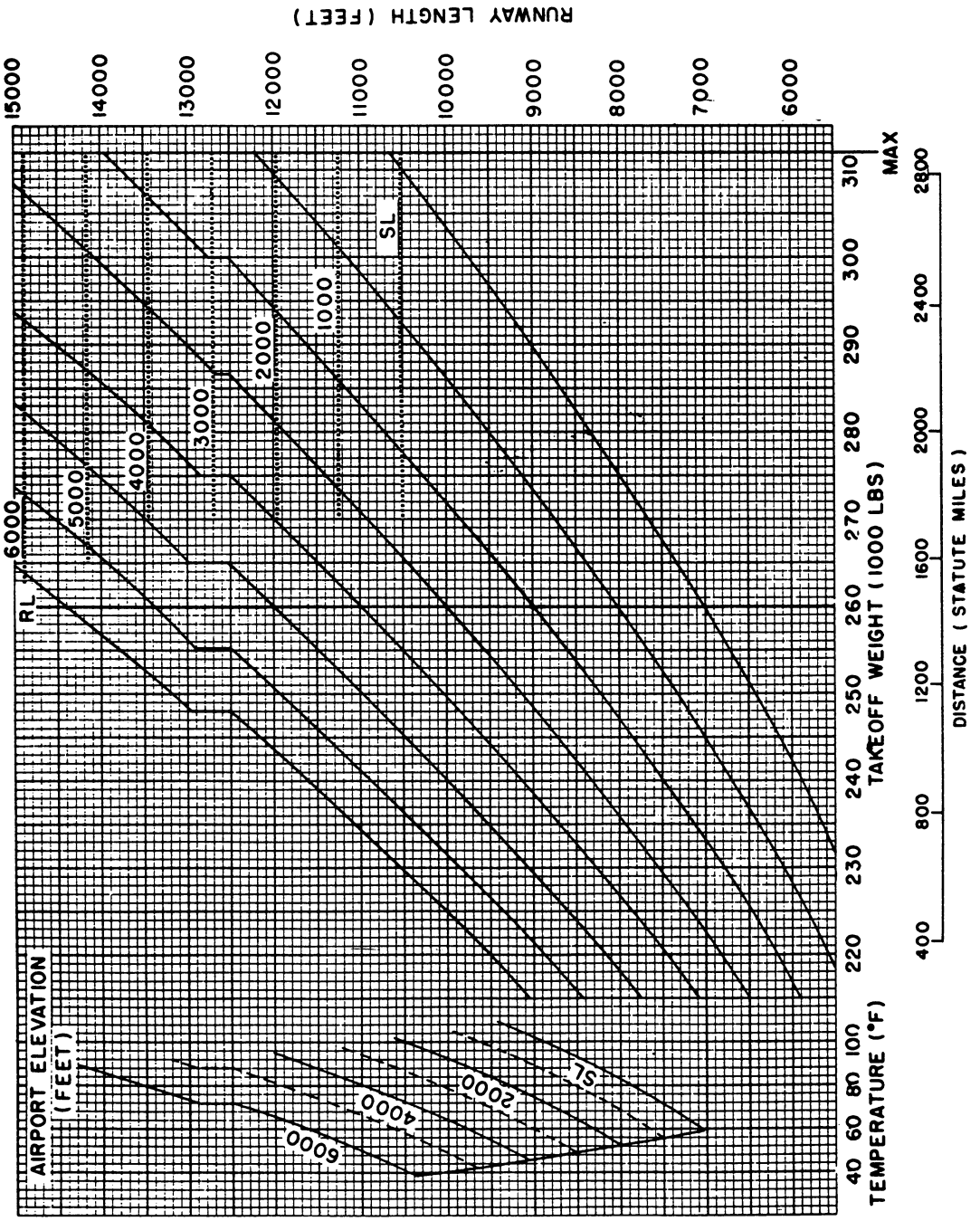


FIGURE 8. Aircraft Performance Curve, Takeoff (Boeing 707-300 Series)

BOEING 707-400 SERIES

ROLLS ROYCE CONWAY 508 ENGINE

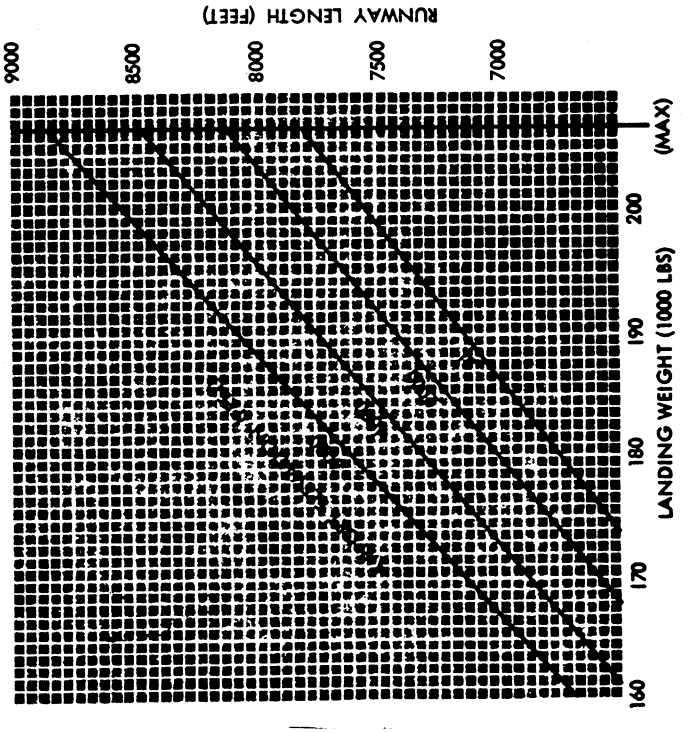


FIGURE 9. Aircraft Performance Curve, Landing (Boeing 707-400 Series)

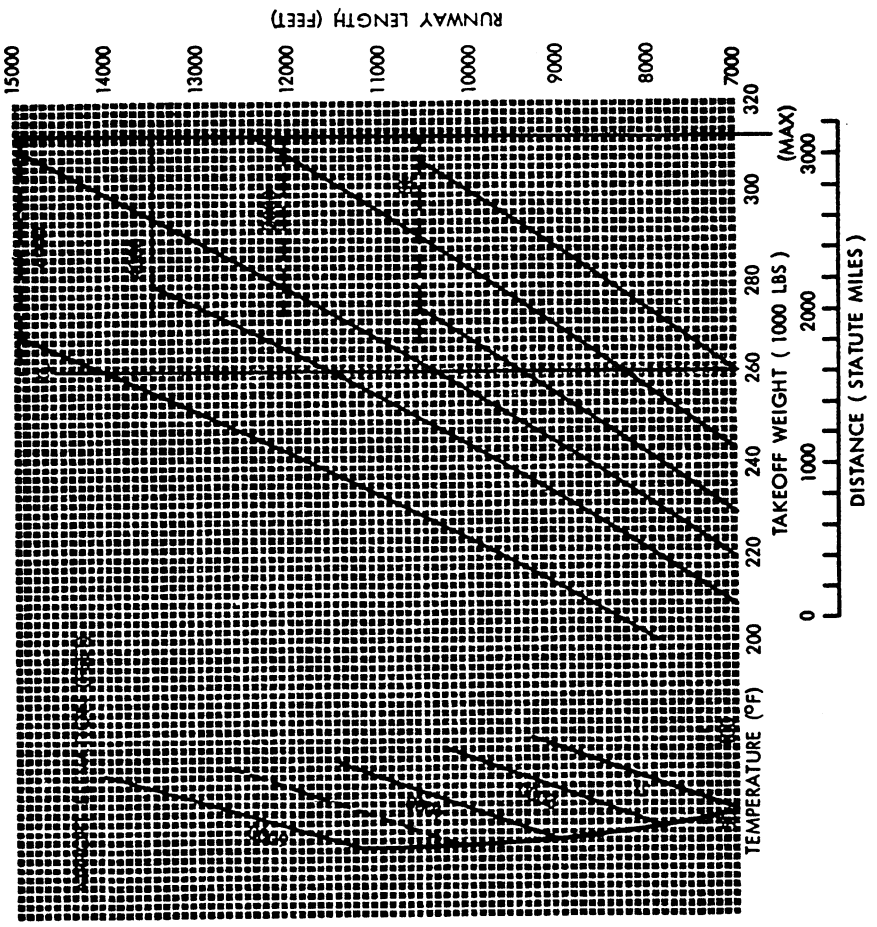
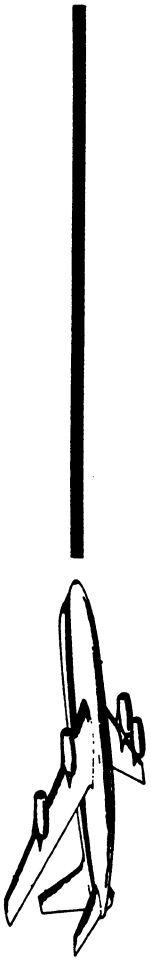


FIGURE 10. Aircraft Performance Curve, Takeoff (Boeing 707-400 Series)



BOEING 720-000 SERIES

PRATT & WHITNEY JT3C-7 ENGINE

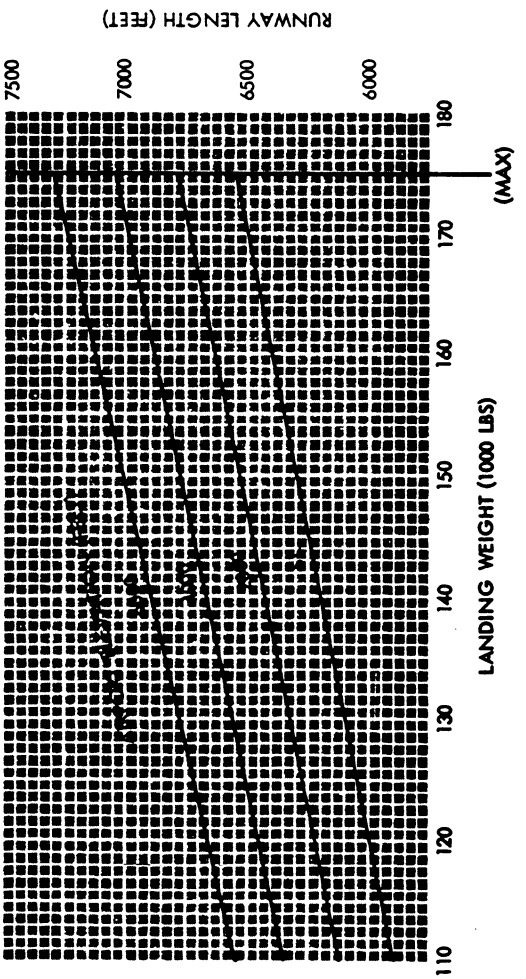


FIGURE 11. Aircraft Performance Curve, Landing (Boeing 720-000 Series)

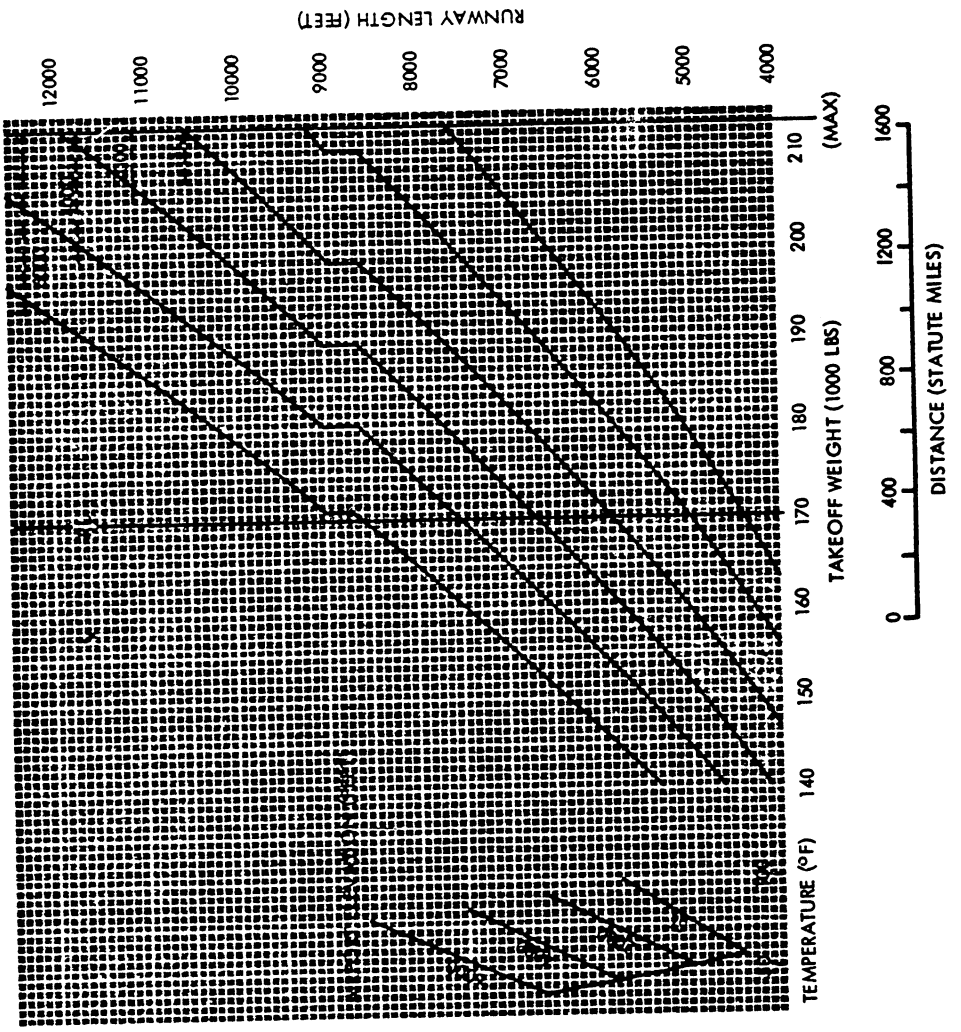


FIGURE 12. Aircraft Performance Curve, Takeoff (Boeing 720-000 Series)

BOEING 720-000 SERIES

PRATT & WHITNEY JT3C-12 ENGINE

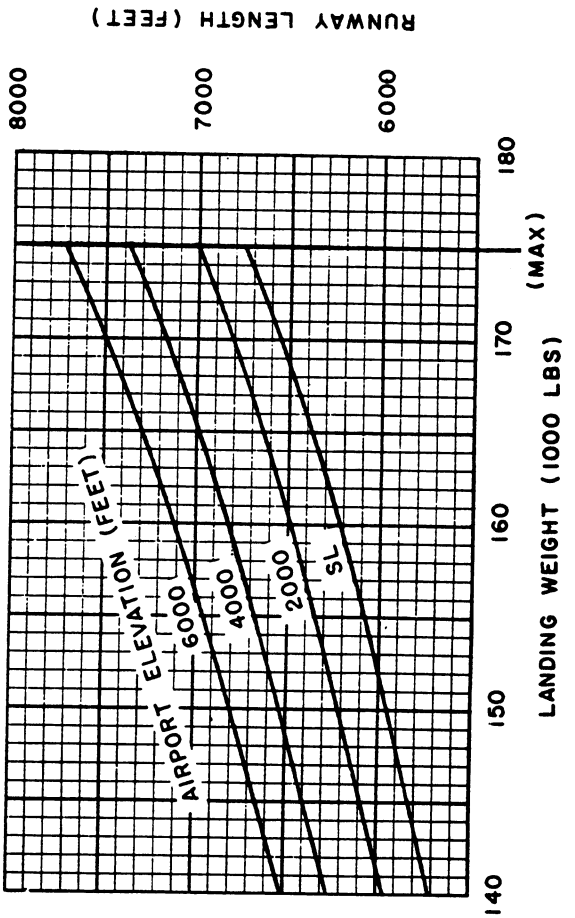


FIGURE 13. Aircraft Performance Curve, Landing (Boeing 720-000 Series)

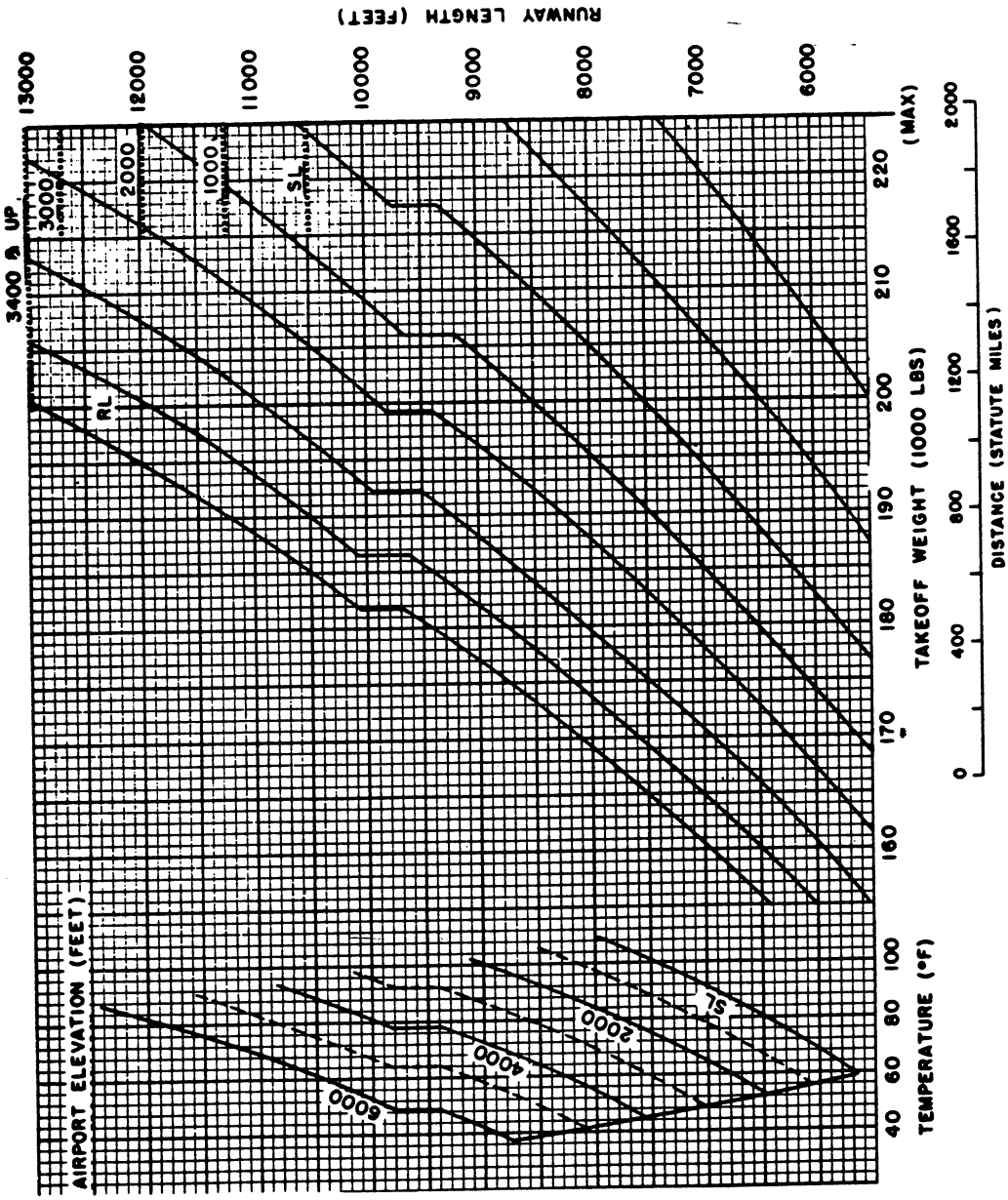
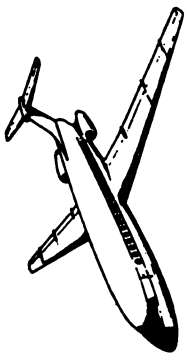


FIGURE 14. Aircraft Performance Curve, Takeoff (Boeing 720-000 Series)



BAC 1-11

Models 203 AE and 204 AF

ROLLS ROYCE SPEY 506-14 ENGINE

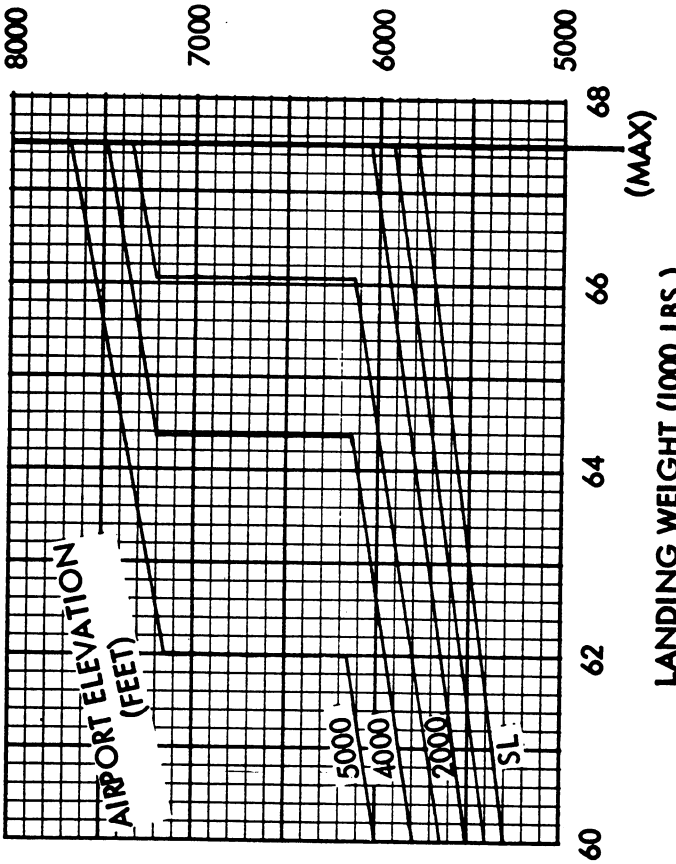


FIGURE 14-1. Aircraft Performance Curve, Landing (BAC 1-11)

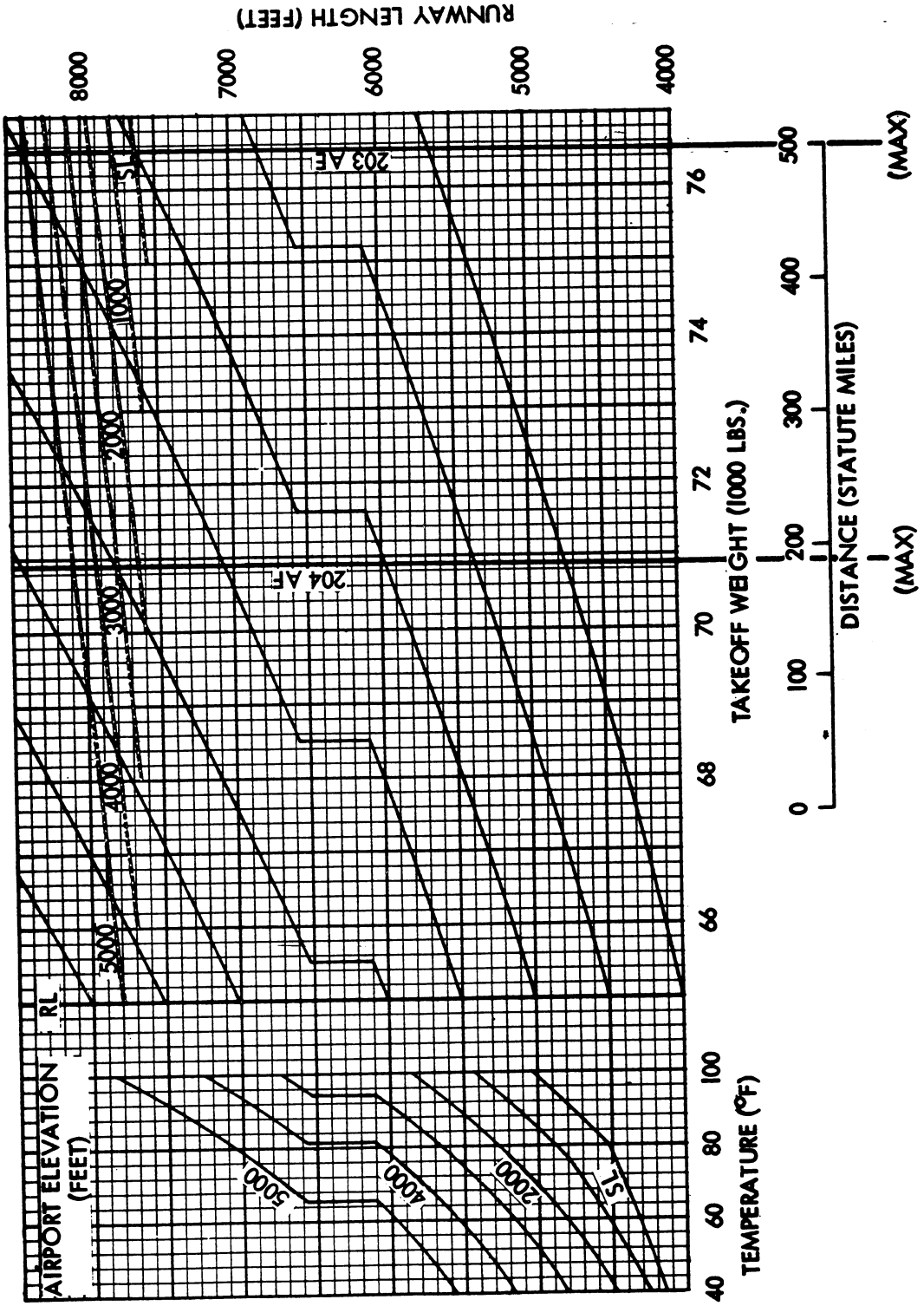


FIGURE 14-2. Aircraft Performance Curve, Takeoff (BAC 1-11)

CARAVELLE SE 210-I

ROLLS ROYCE AVON 522 ENGINE

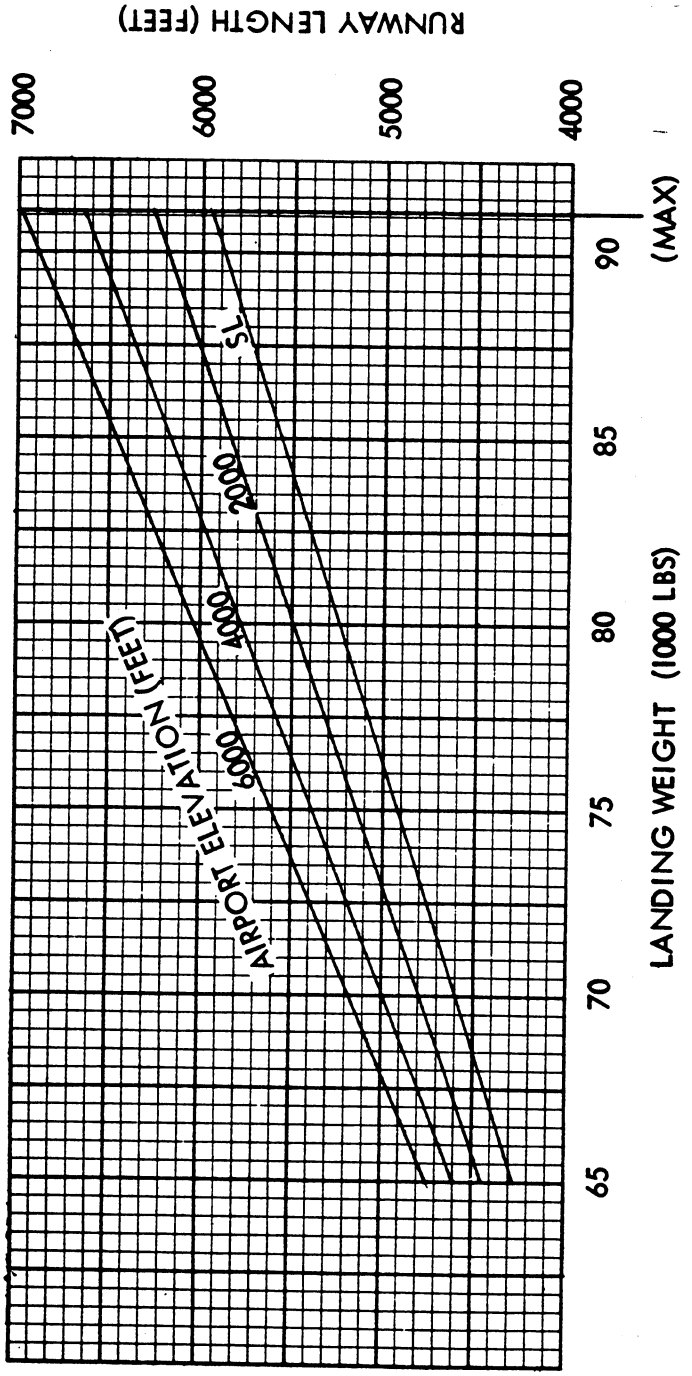


FIGURE 15. Aircraft Performance Curve, Landing (Caravelle SE 210-1)

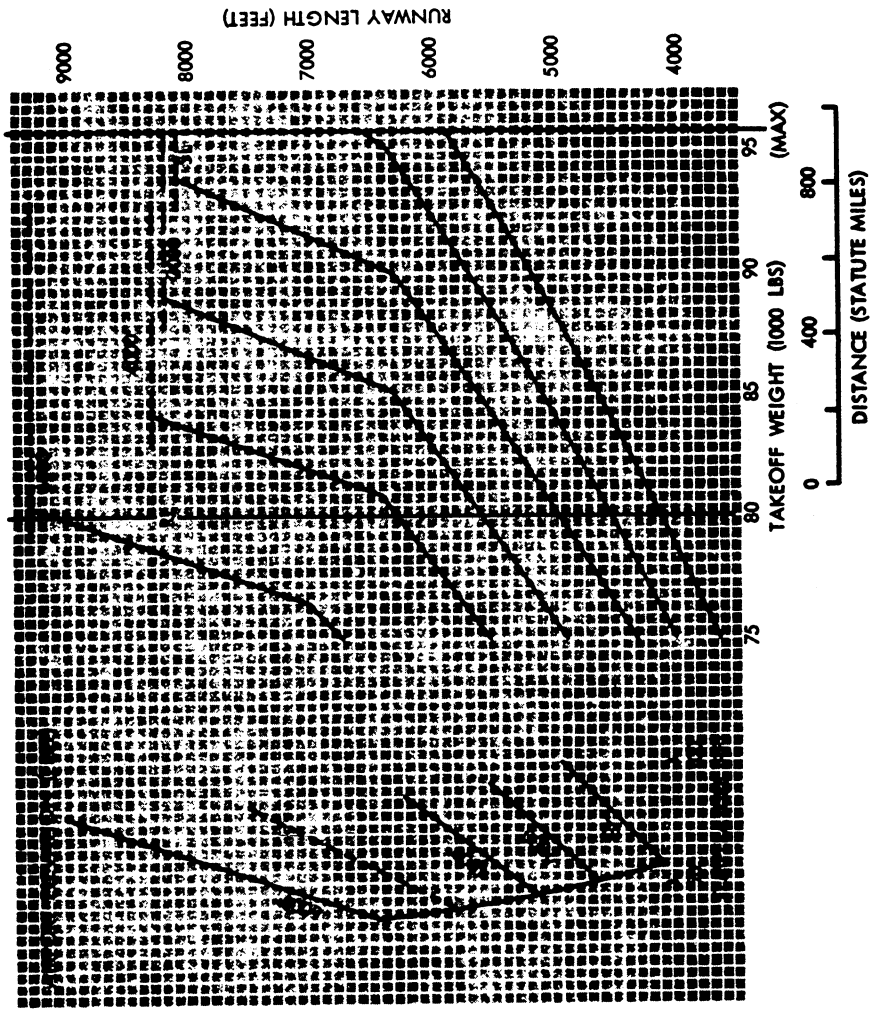
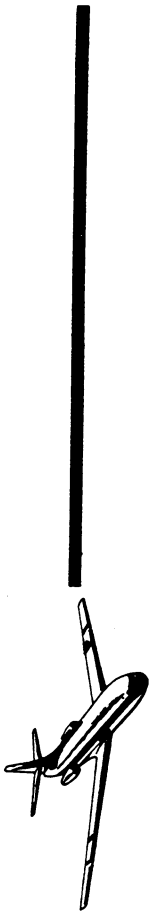


FIGURE 16. Aircraft Performance Curve, Takeoff (Caravelle SE 210-1)



CARAVELLE SE 210-6R

ROLLS ROYCE AVON 532R ENGINE

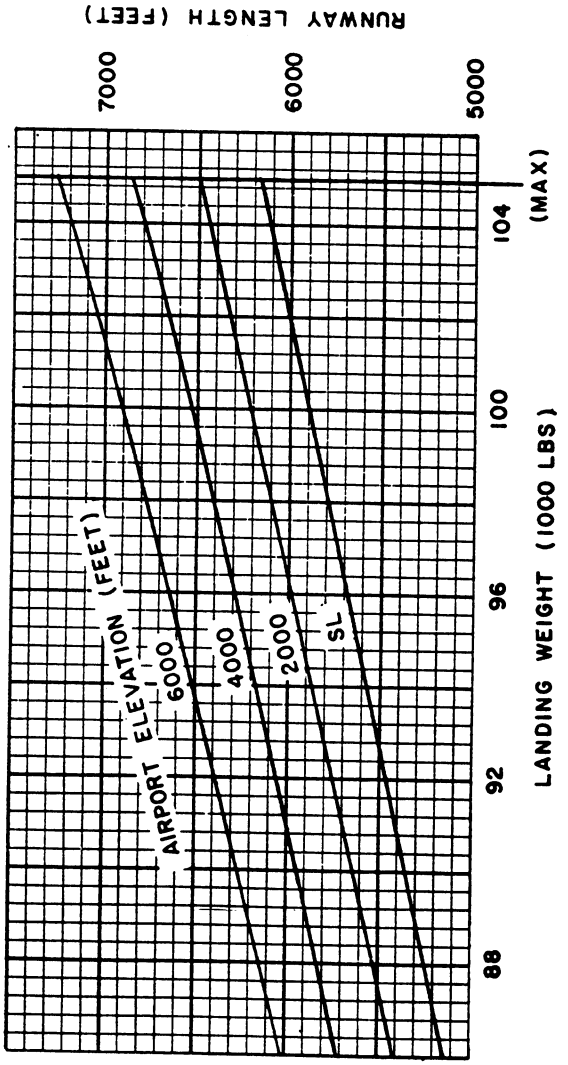


FIGURE 17. Aircraft Performance Curve, Landing (Caravelle SE 210-6R)

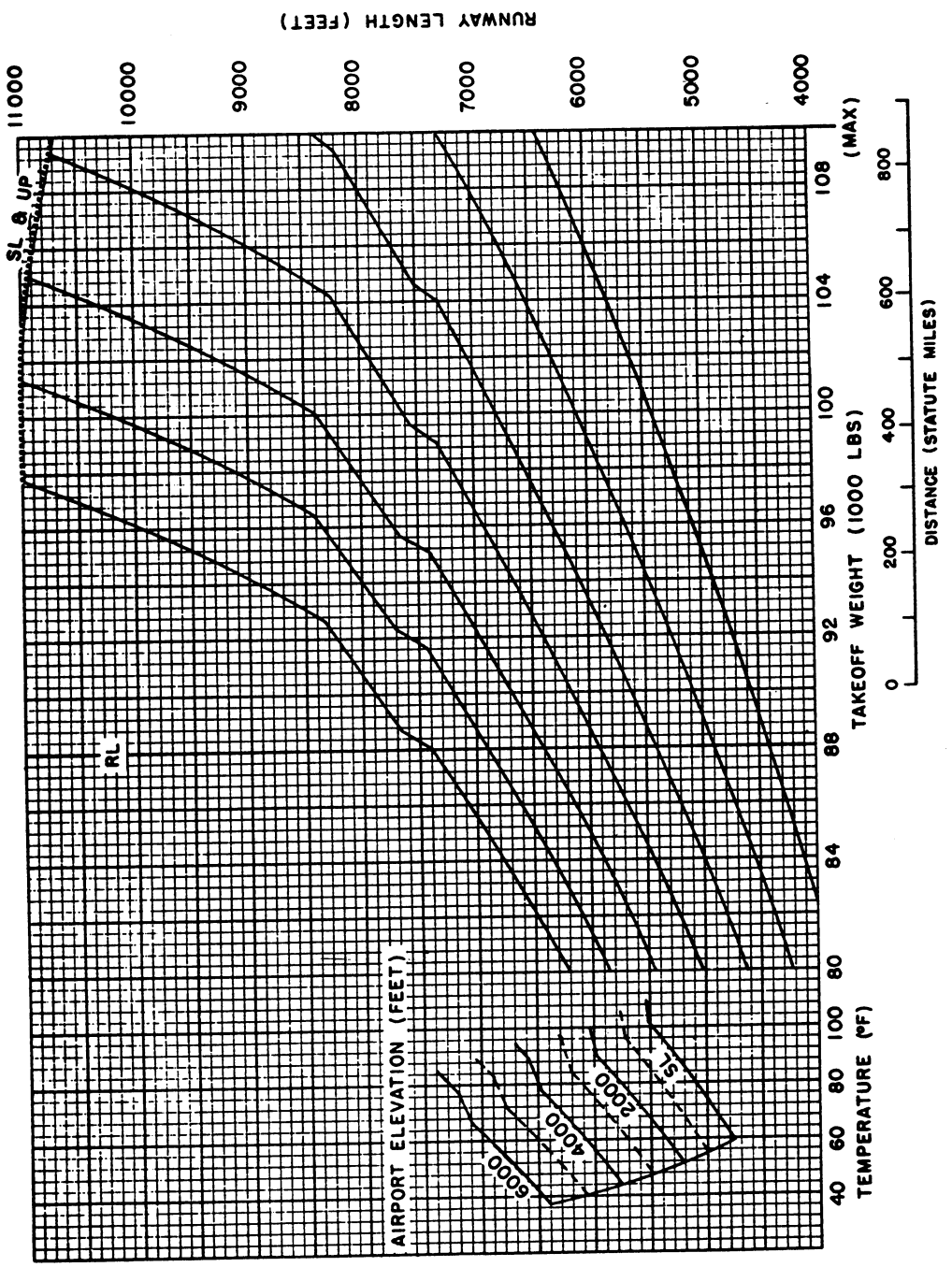


FIGURE 18. Aircraft Performance Curve, Takeoff (Caravelle SE 210-6R)

CONVAIR 880

GENERAL ELECTRIC CJ805-3 ENGINE

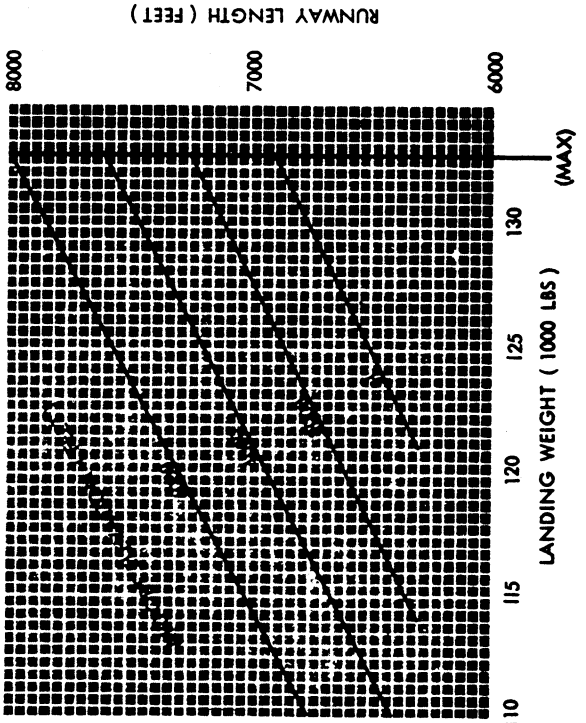


FIGURE 19. Aircraft Performance Curve, Landing (Convair 880)

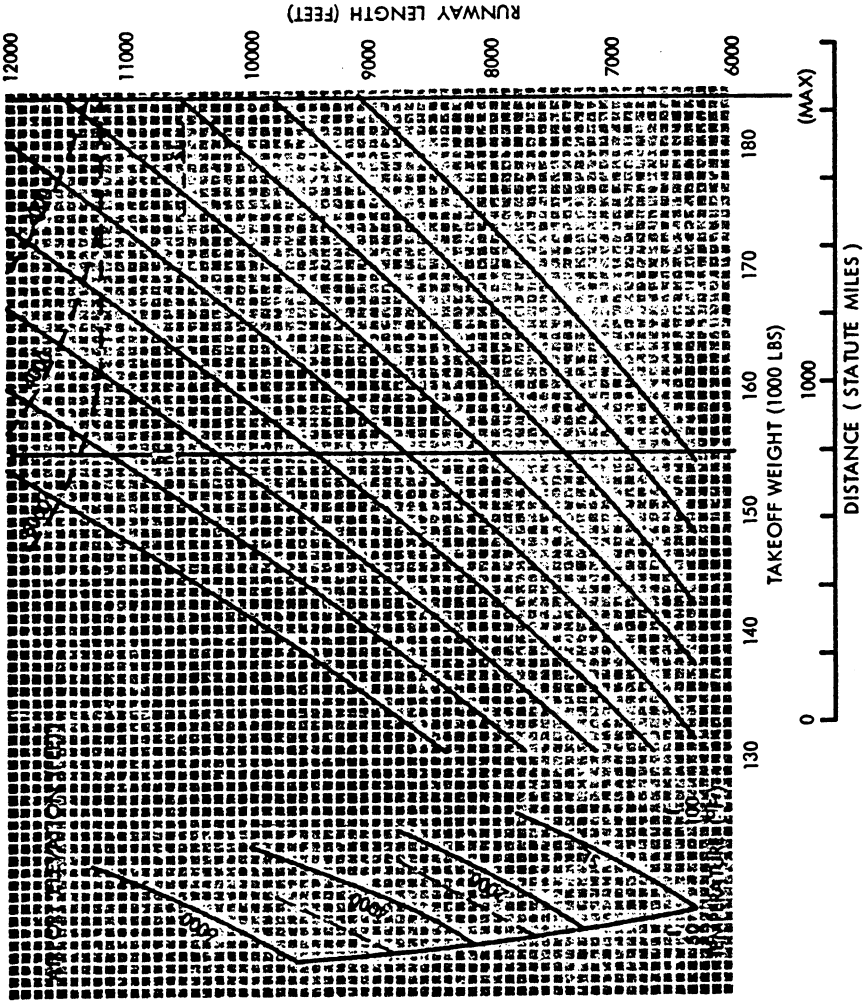


FIGURE 20. Aircraft Performance Curve, Takeoff (Convair 880)

CONVAIR 880M

GENERAL ELECTRIC CJ805-3B ENGINE

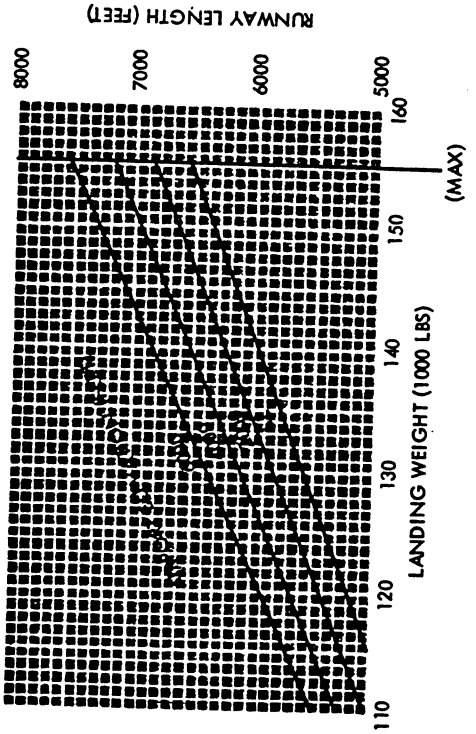


FIGURE 21. Aircraft Performance Curve, Landing (Convair 880M)

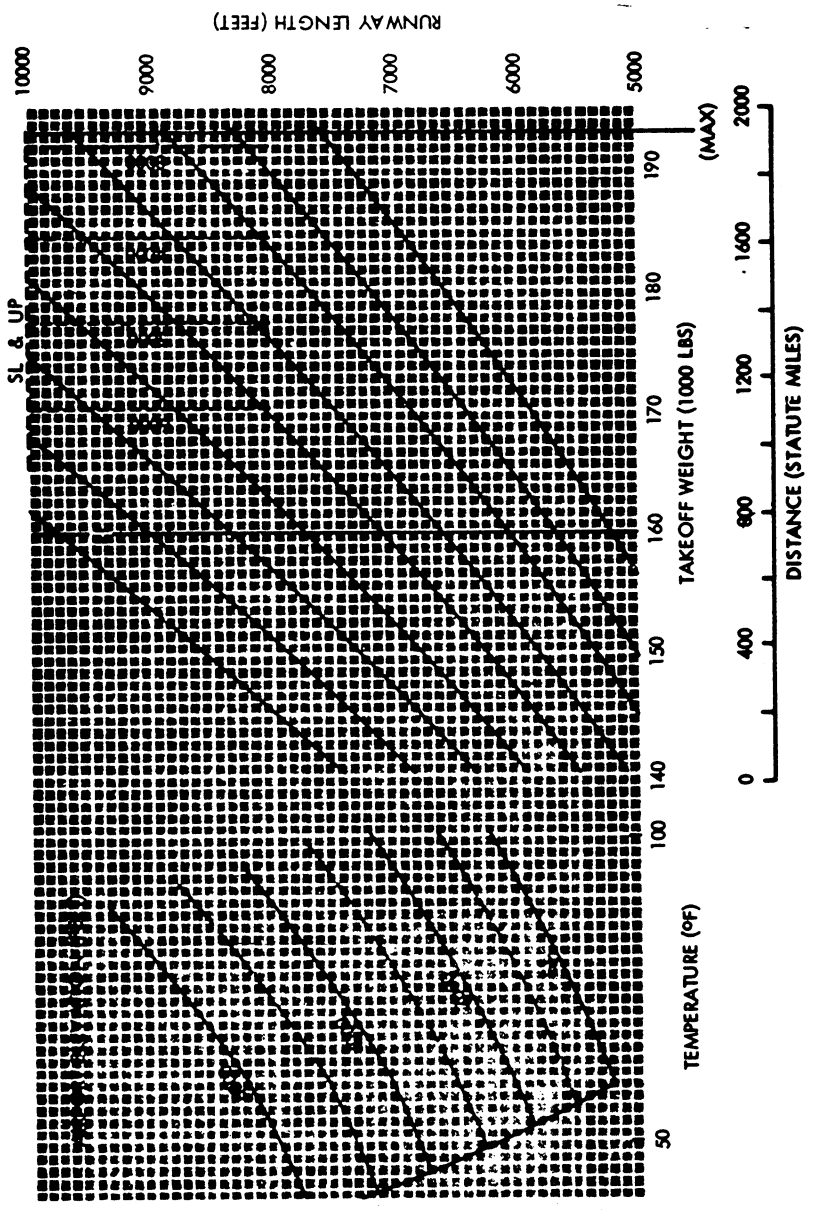


FIGURE 22. Aircraft Performance Curve, Takeoff (Convair 880M)

DOUGLAS DC-8-10 SERIES

PRATT & WHITNEY JT3C-6 ENGINE

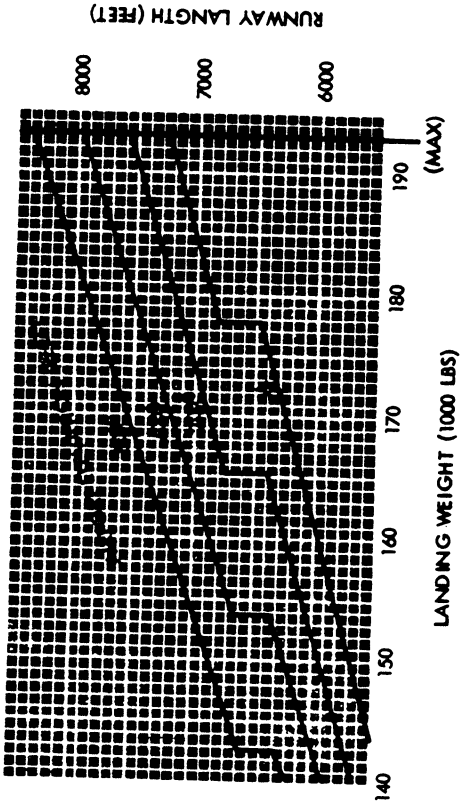


FIGURE 23. Aircraft Performance Curve, Landing (Douglas DC-8-10 Series)

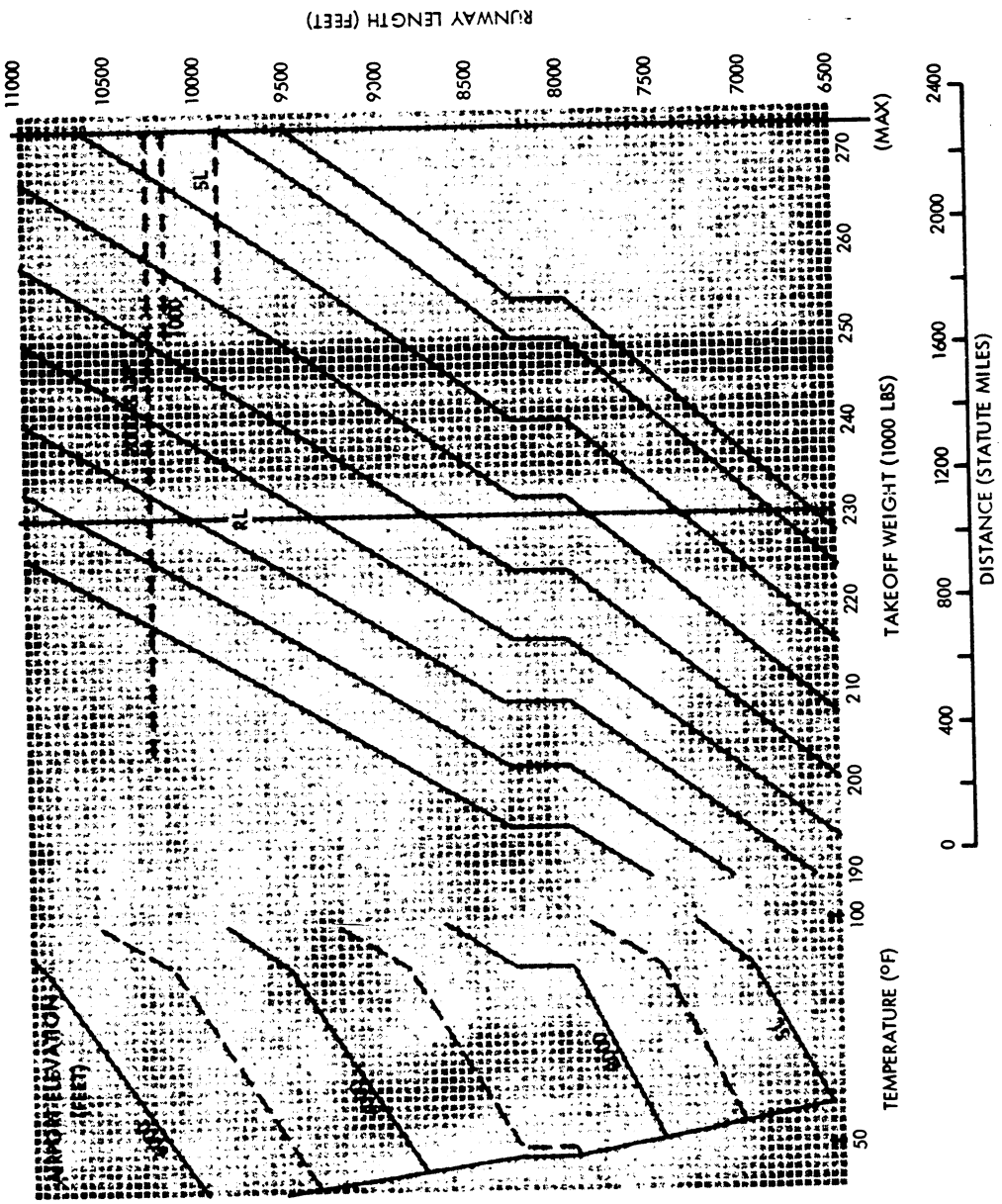


FIGURE 24. Aircraft Performance Curve, Takeoff (Douglas DC-8-10 Series)

DOUGLAS DC-8-20 SERIES

PRATT & WHITNEY JT4A-9 ENGINE
JT4A-10

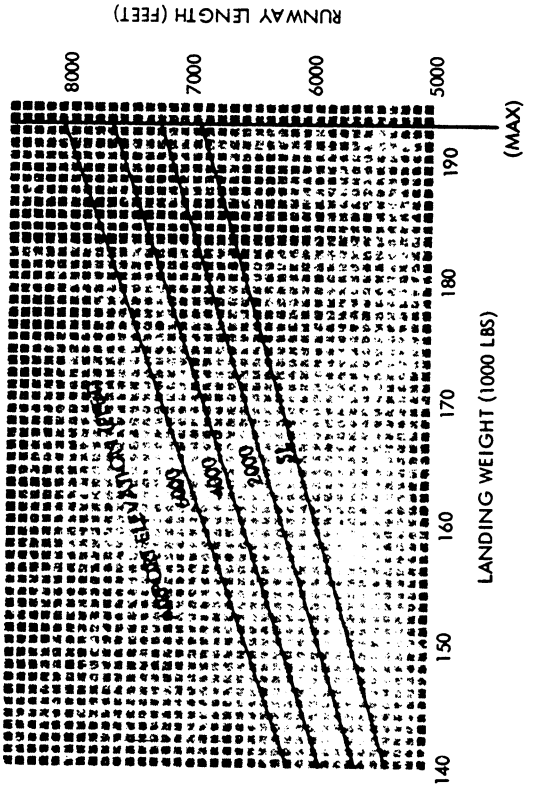


FIGURE 25. Aircraft Performance Curve, Landing (Douglas DC-8-20 Series)

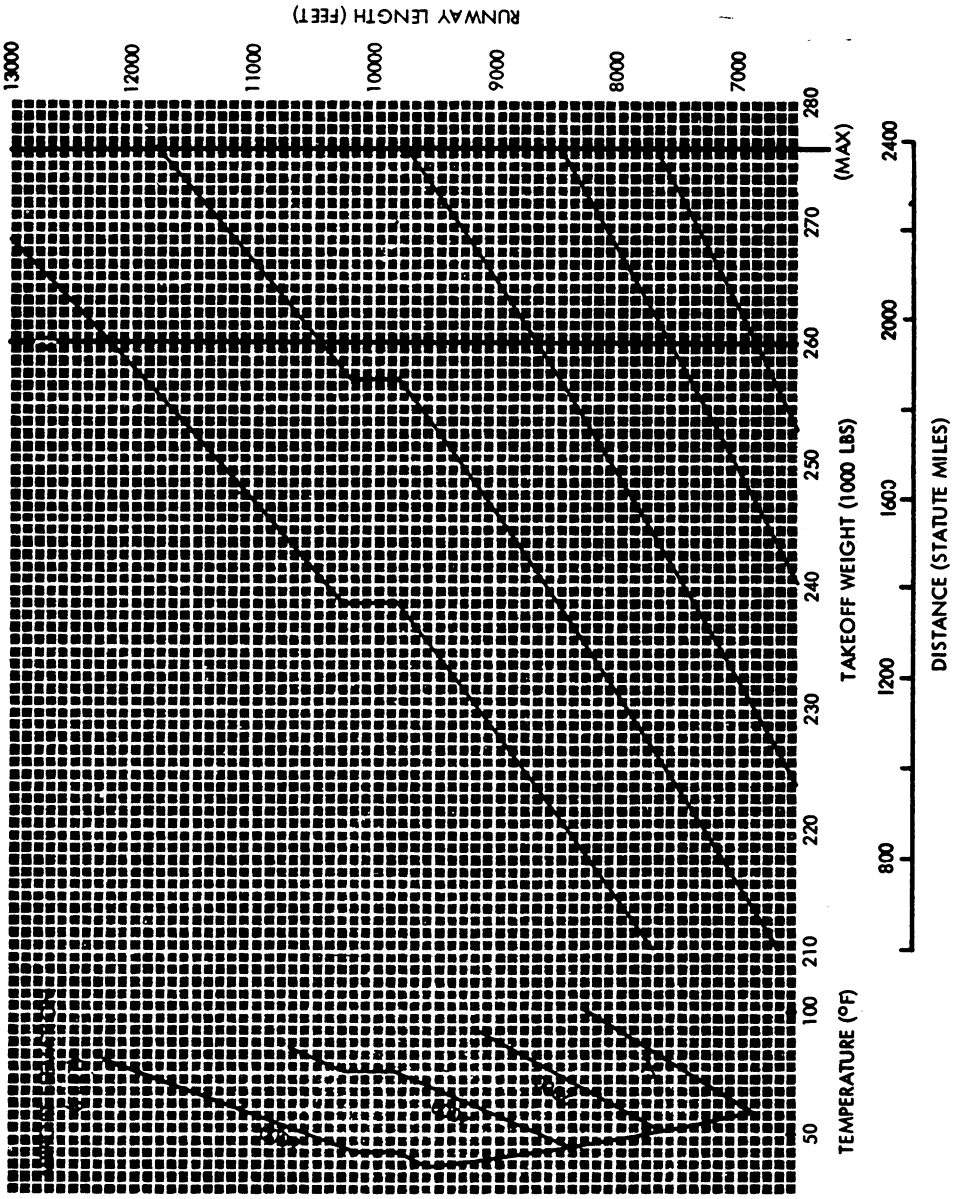


FIGURE 26. Aircraft Performance Curve, Takeoff (Douglas DC-8-20 Series)

DOUGLAS DC-8-30 SERIES

PRATT & WHITNEY JT4A-9 ENGINE
JT4A-10

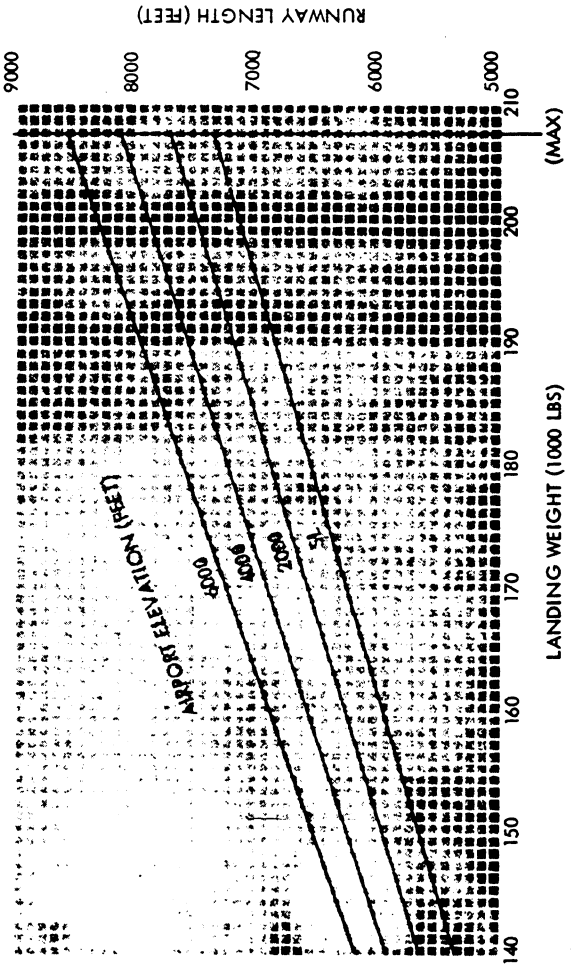


FIGURE 27. Aircraft Performance Curve, Landing (Douglas DC-8-30 Series)

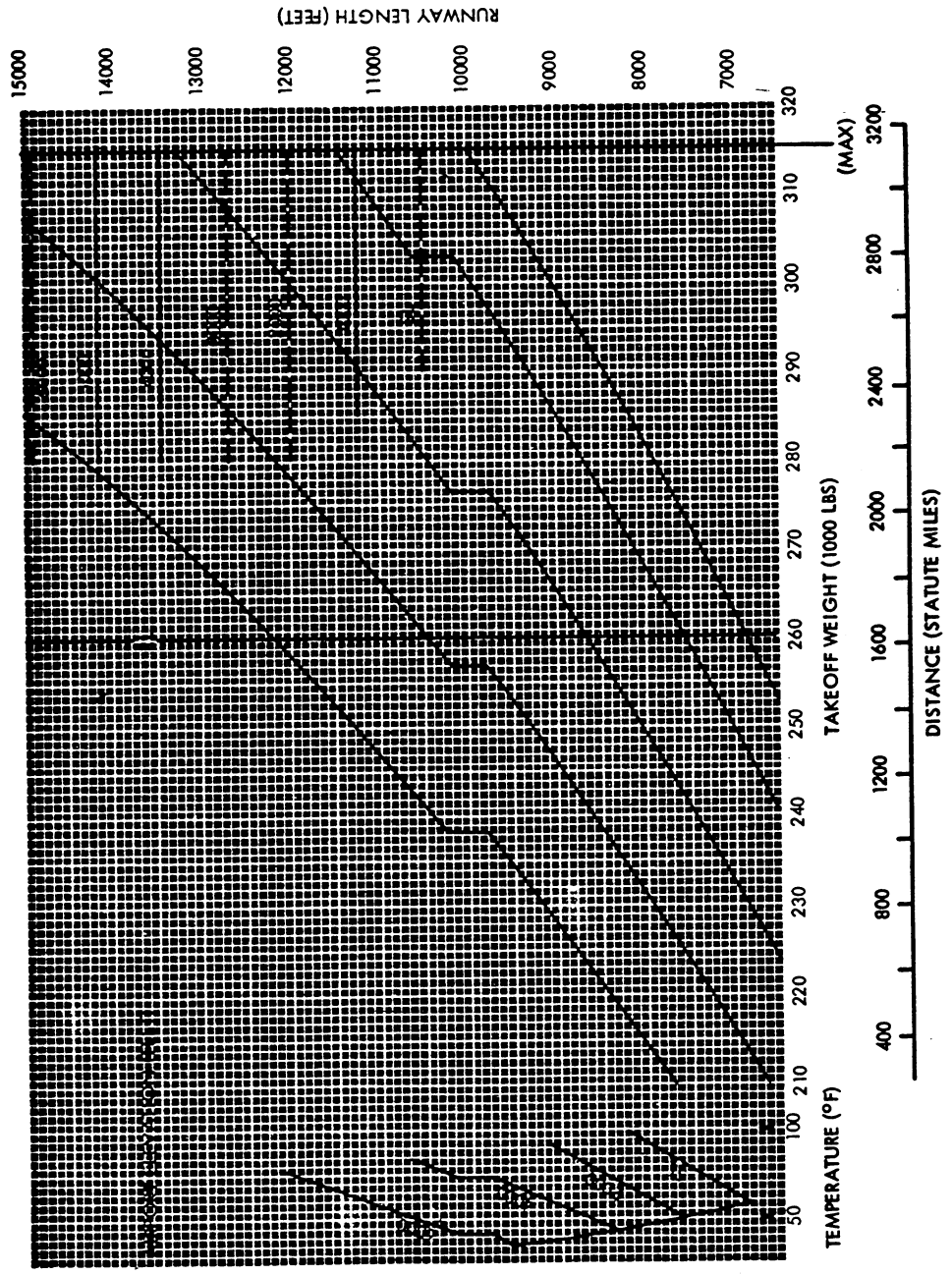


FIGURE 28. Aircraft Performance Curve, Takeoff (Douglas DC-8-30 Series)

DOUGLAS DC-8-40 SERIES

ROLLS ROYCE CONWAY 509 ENGINE

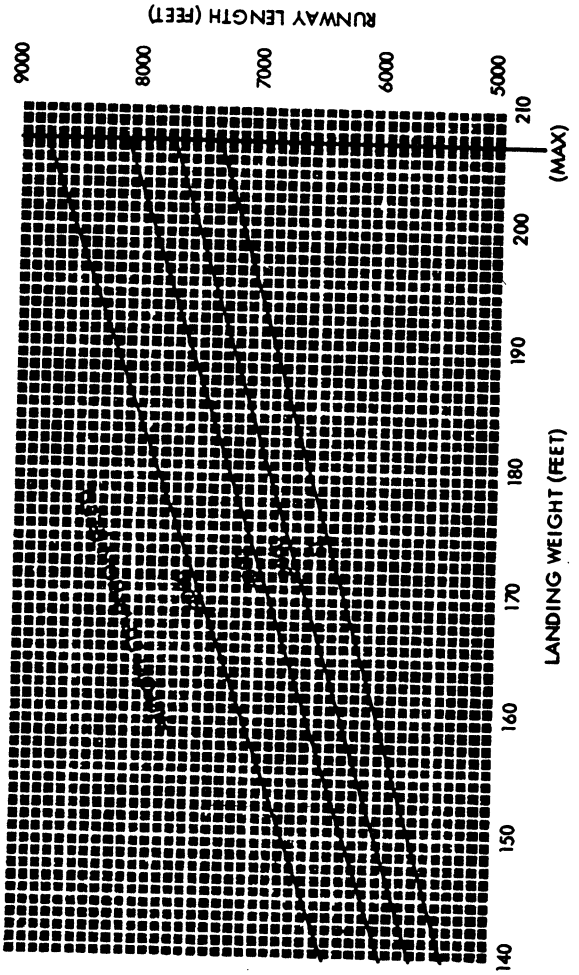


FIGURE 29. Aircraft Performance Curve, Landing (Douglas DC-8-40 Series)

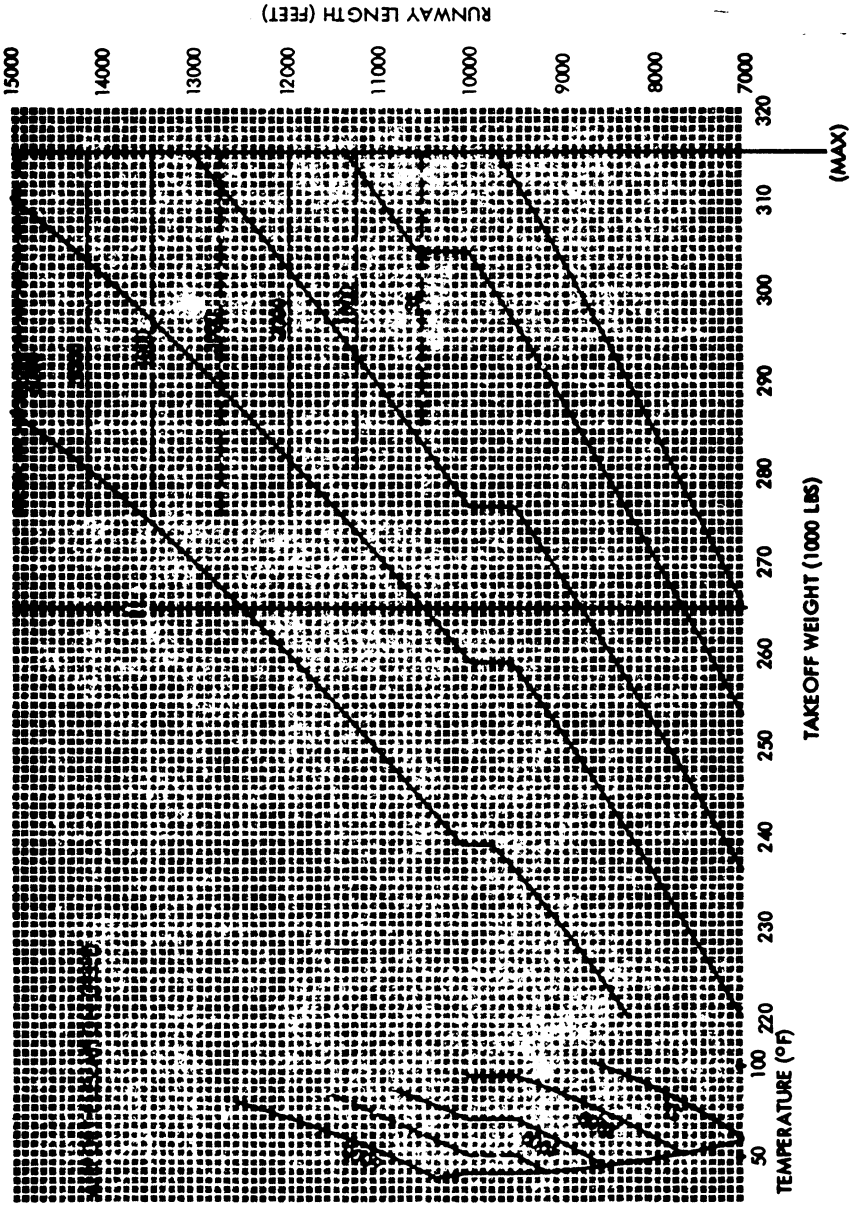


FIGURE 30. Aircraft Performance Curve, Takeoff (Douglas DC-8-40 Series)

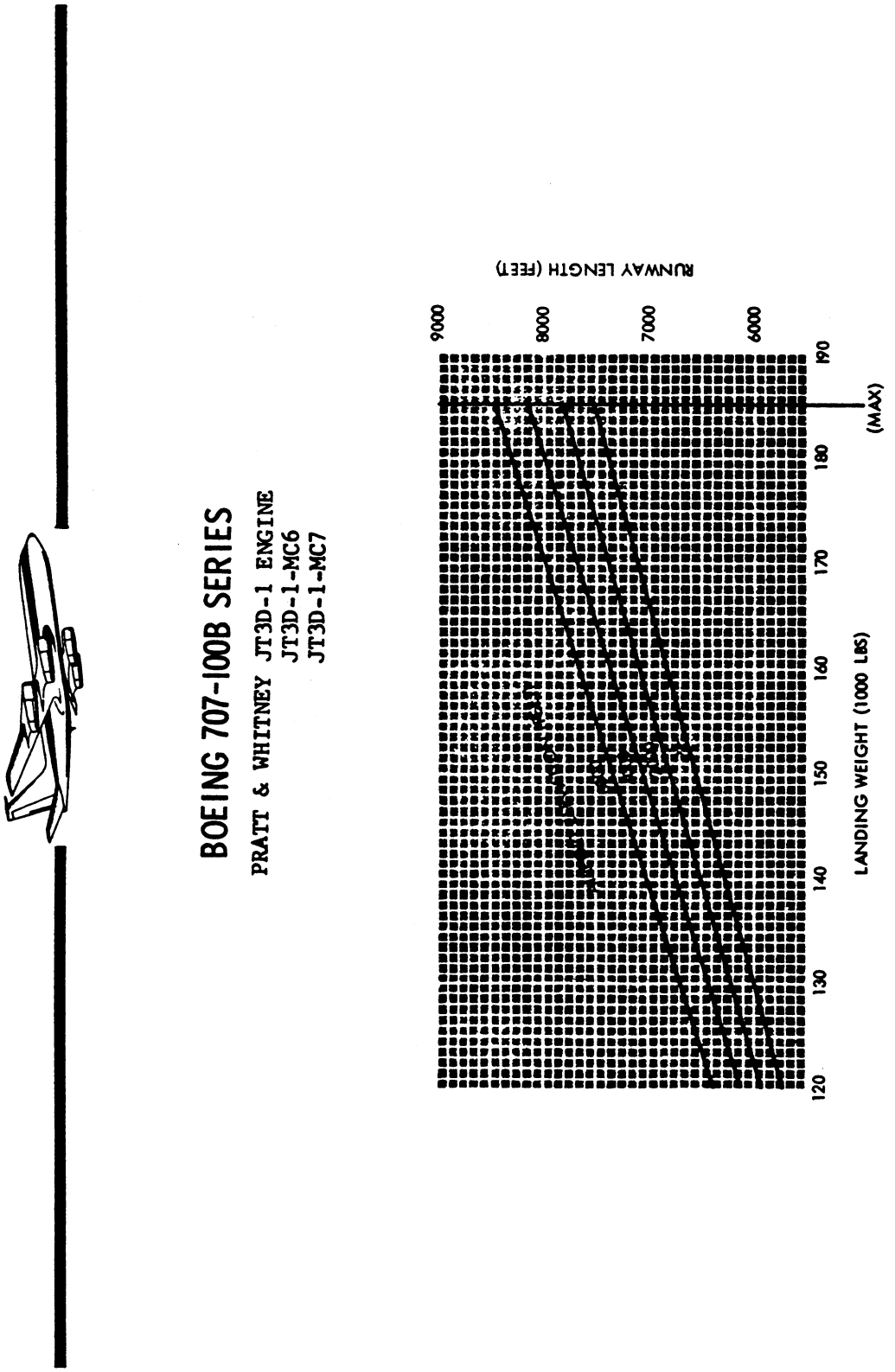


Figure 31. Aircraft Performance Curve, Landing (Boeing 707-100B Series)

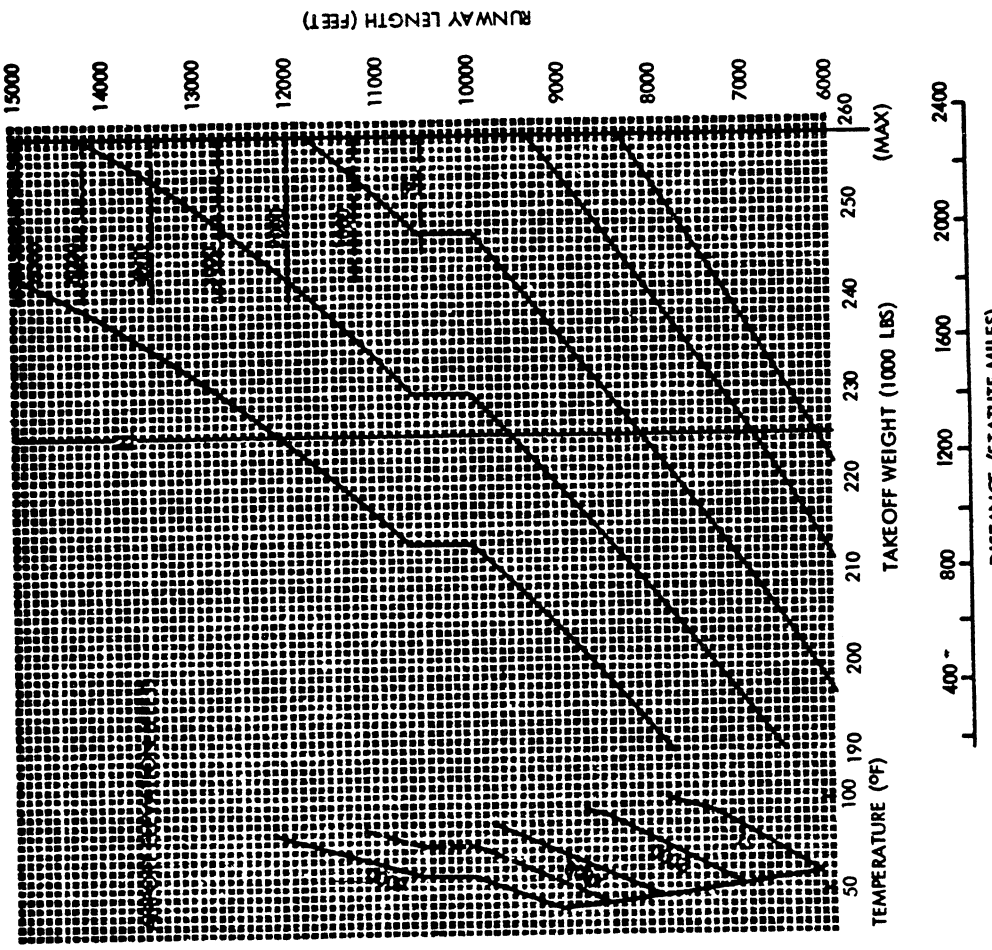


Figure 32. Aircraft Performance Curve, Takeoff (Boeing 707-100B Series)

BOEING 707-300B SERIES

PRATT & WHITNEY JT3D-3 ENGINE

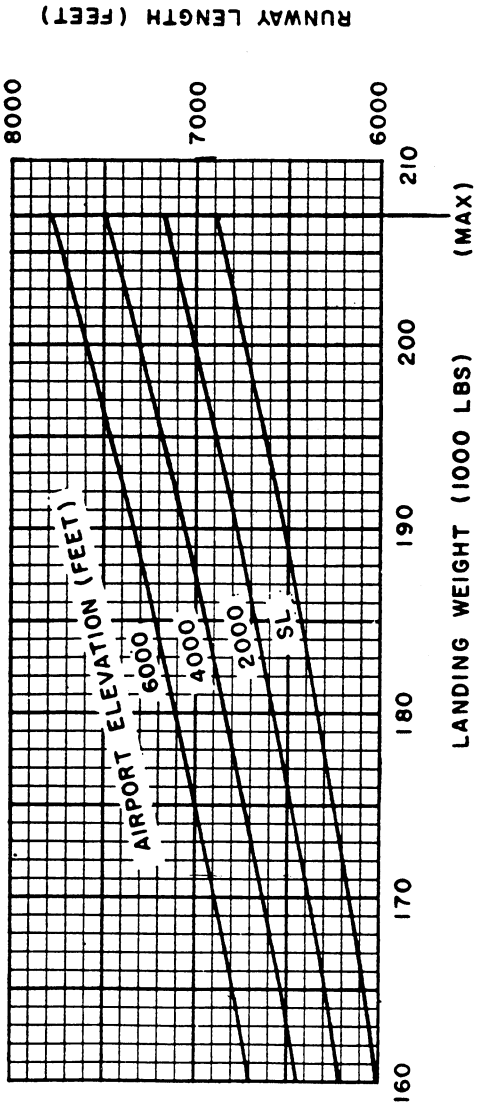


Figure 33. Aircraft Performance Curve, Landing (Boeing 707-300B Series)

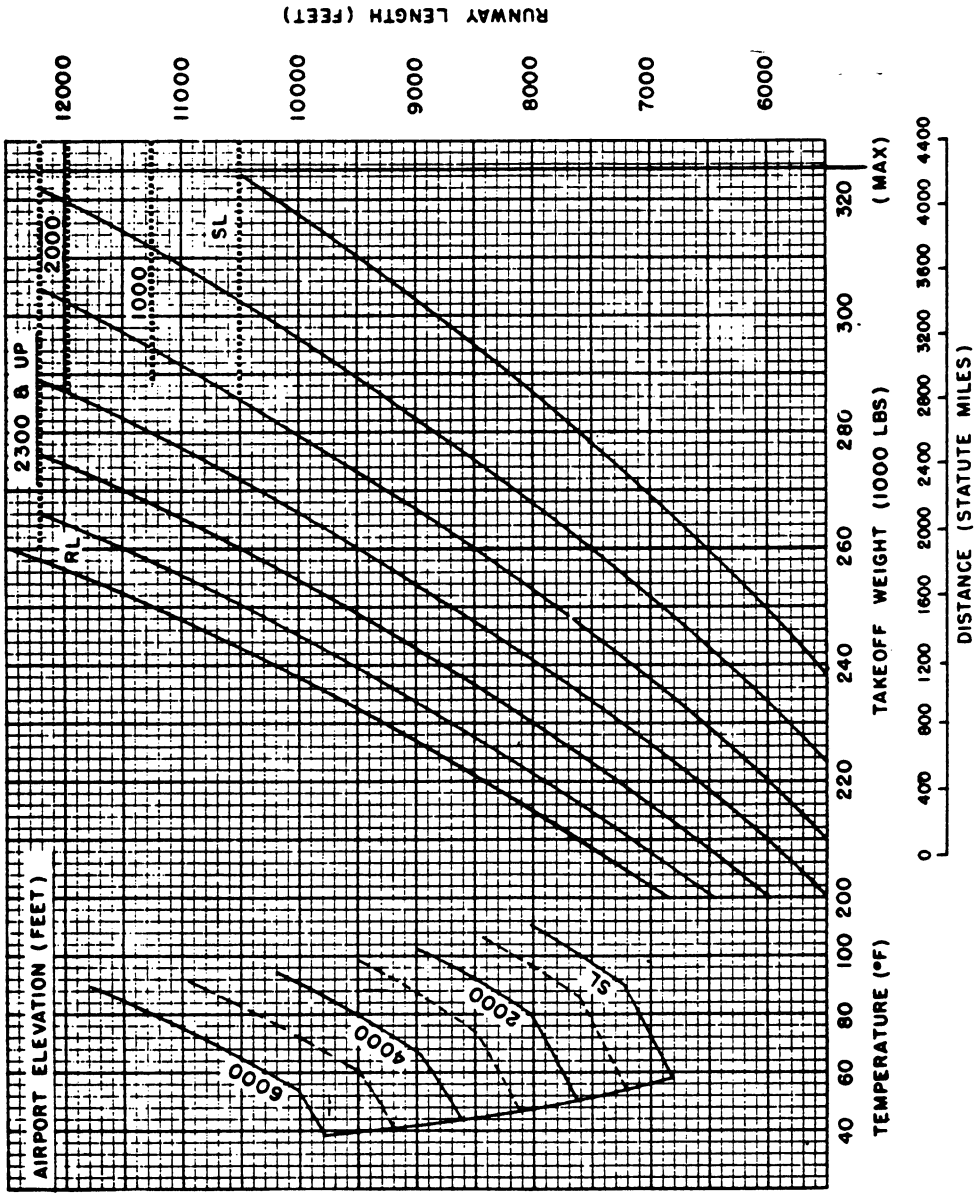


Figure 34. Aircraft Performance Curve, Takeoff (Boeing 707-300B Series)

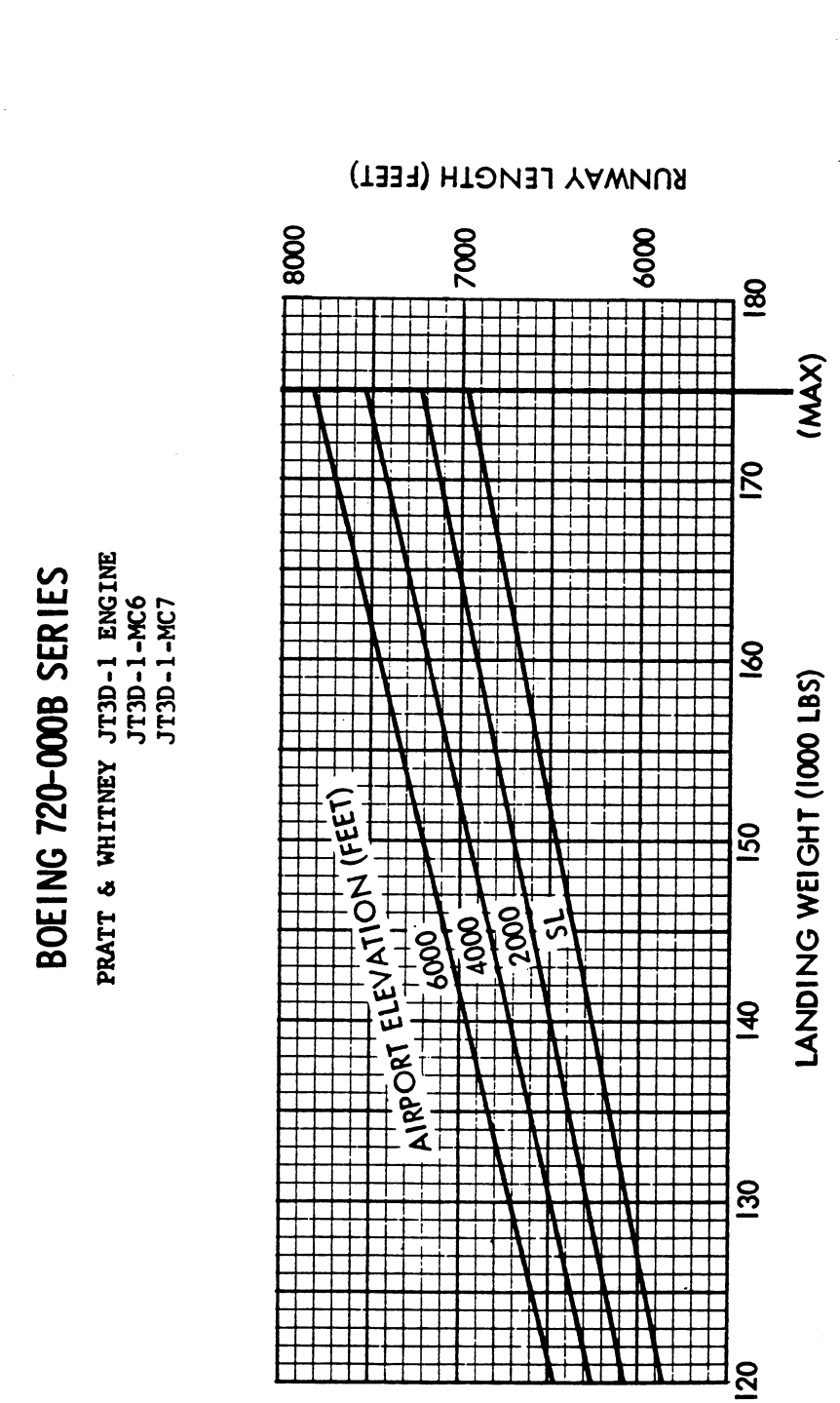


Figure 35. Aircraft Performance Curve, Landing (Boeing 720-000B Series)

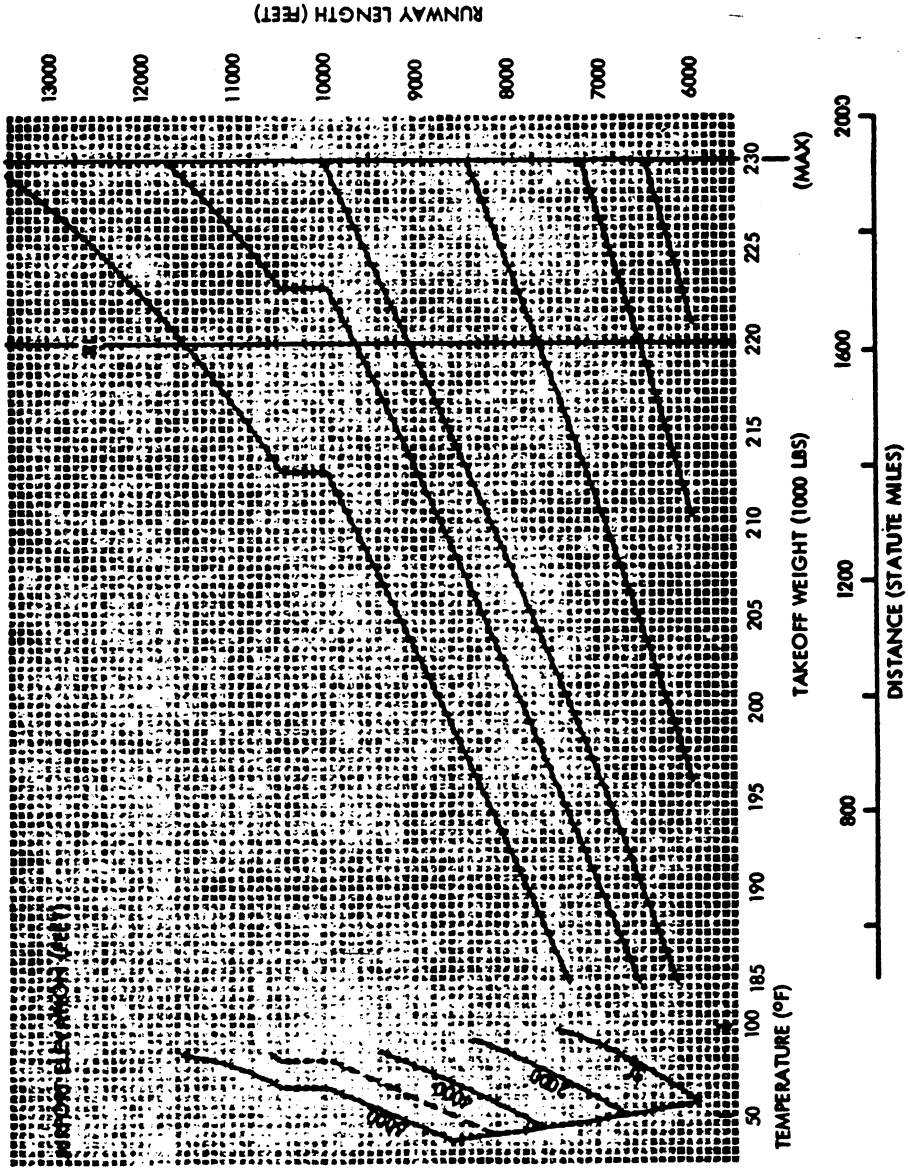


Figure 36. Aircraft Performance Curve, Takeoff (Boeing 720-000B Series)

BOEING 727-00 SERIES

Pratt & Whitney JT8D-1 Engine

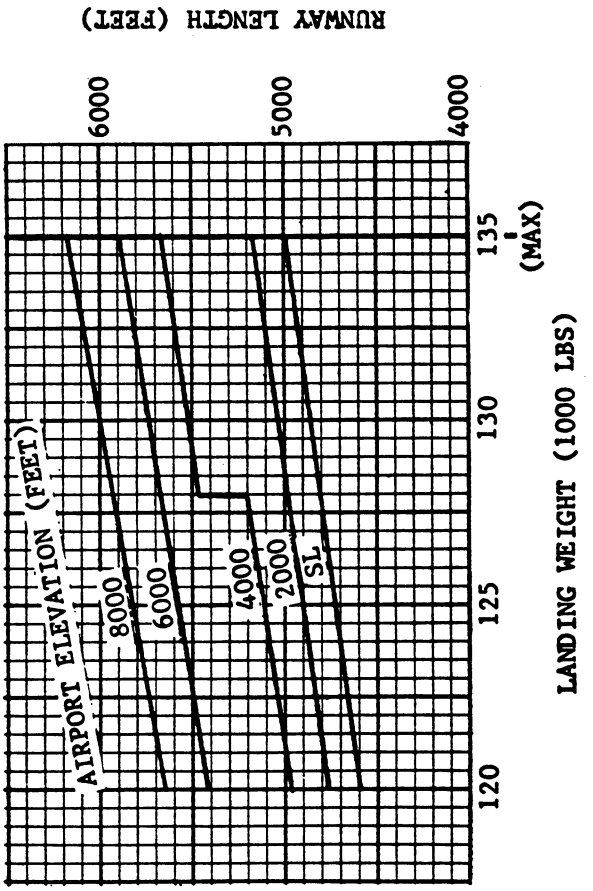


Figure 37. Aircraft Performance Curve, Landing (Boeing 727-00 Series)

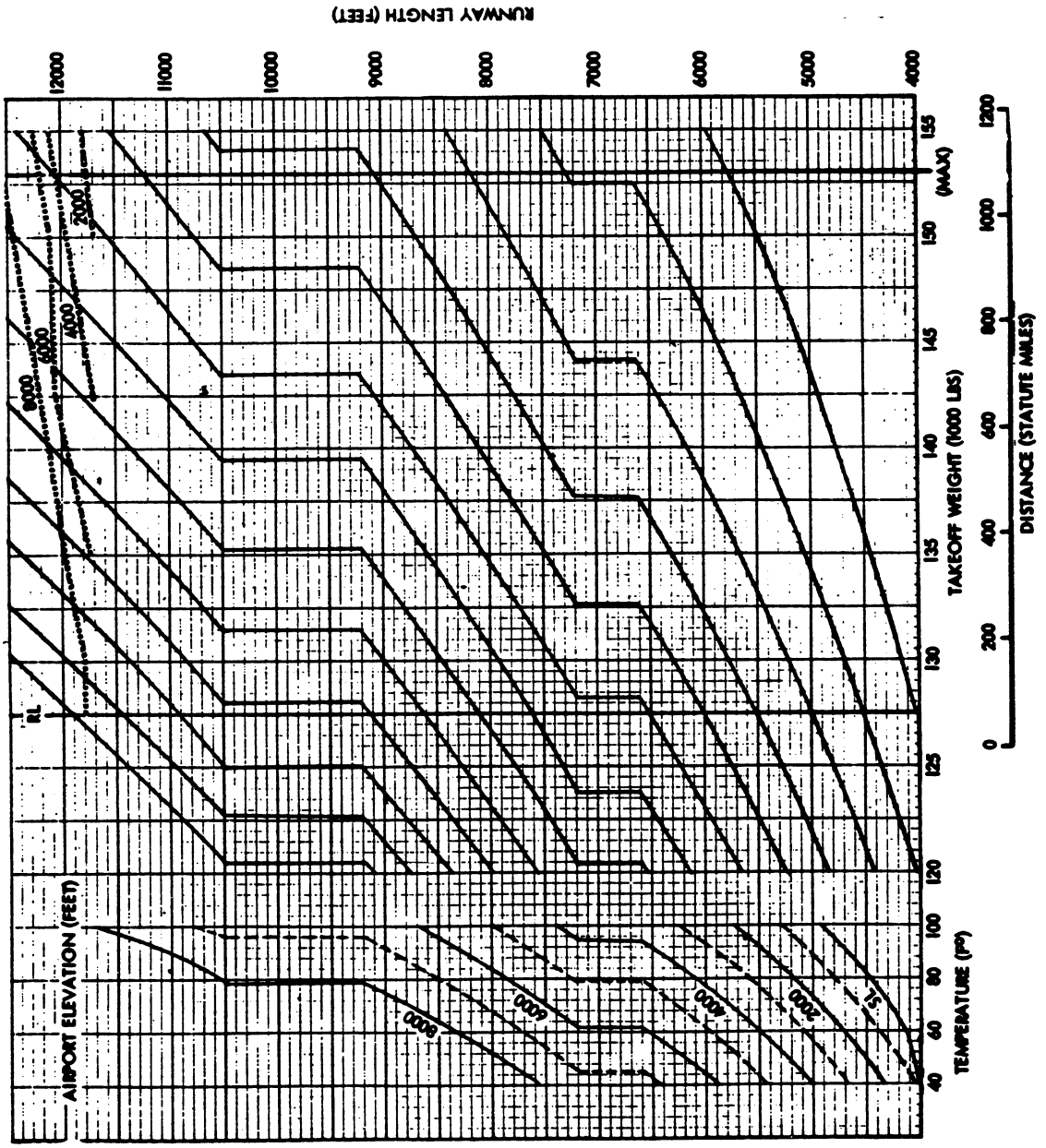
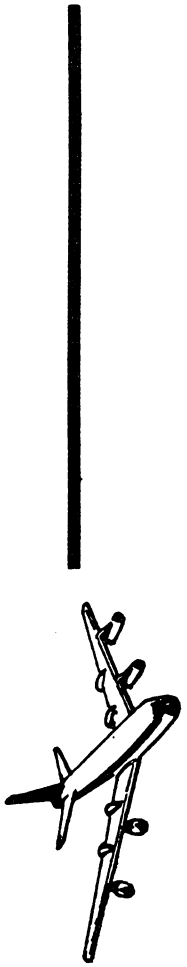


Figure 38. Aircraft Performance Curve, Takeoff (Boeing 727-00 Series)



CONVAIR 990A

GENERAL ELECTRIC CJ805-23B ENGINE

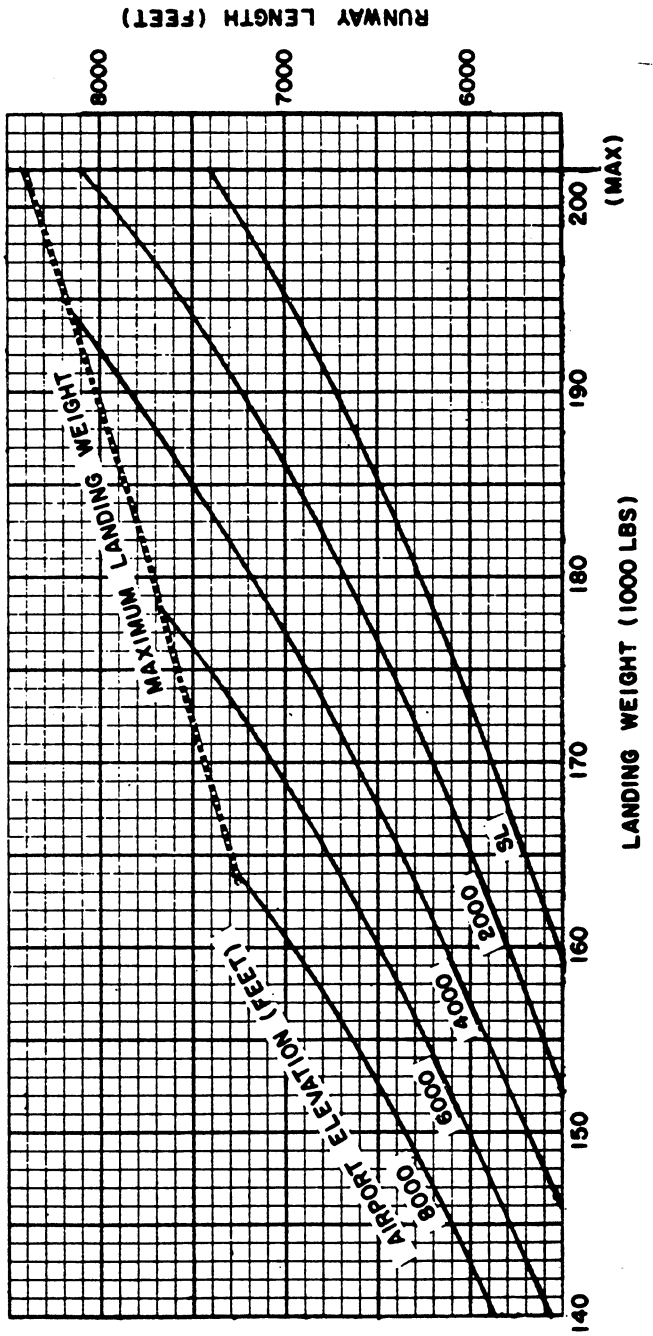


Figure 39. Aircraft Performance Curve, Landing (Convair 990A)

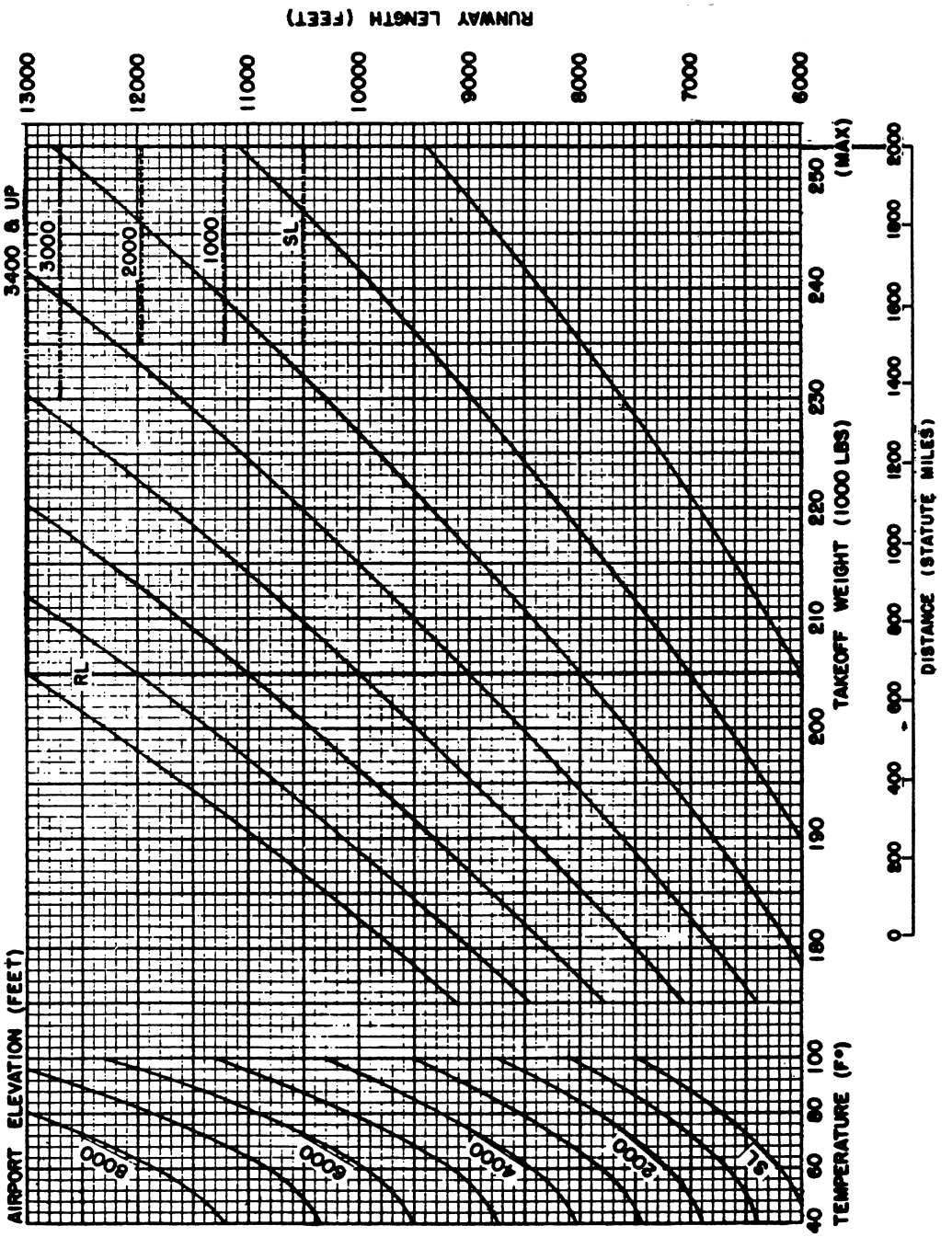


Figure 40. Aircraft Performance Curve, Takeoff (Convair 990A)

DOUGLAS DC-8-50 SERIES

PRATT & WHITNEY JT3D-1 ENGINE

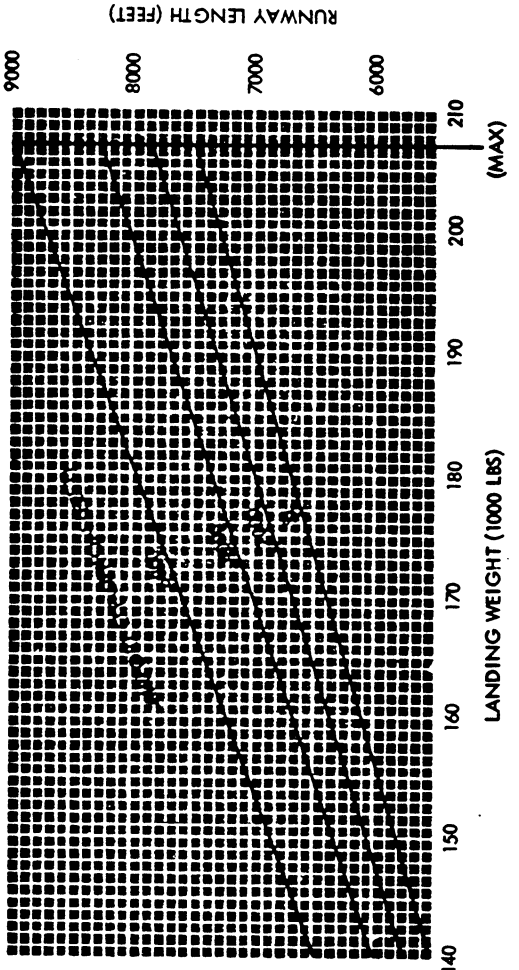


Figure 41. Aircraft Perfcrmance Curve, Landing (Douglas DC-8-50 Series)

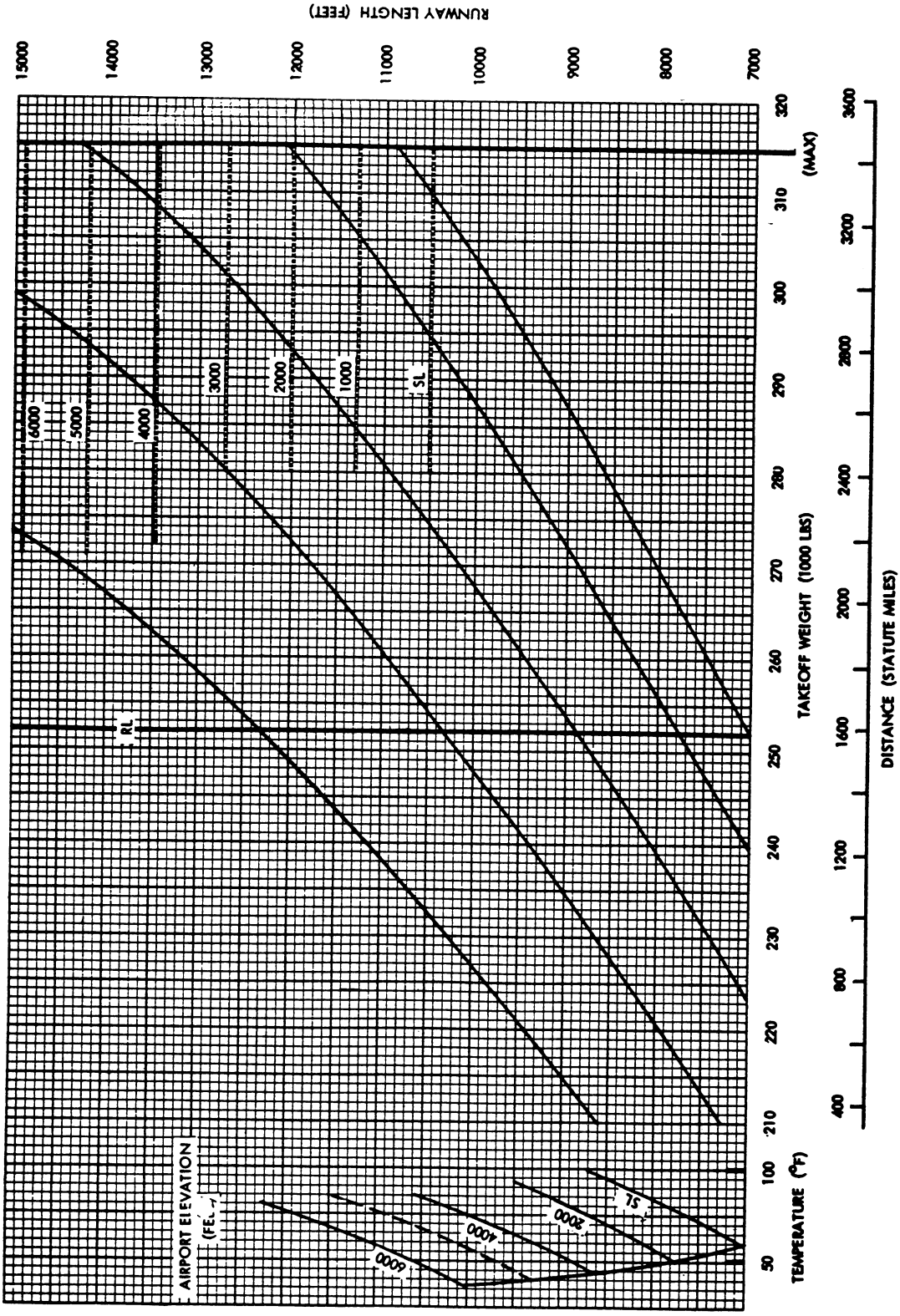
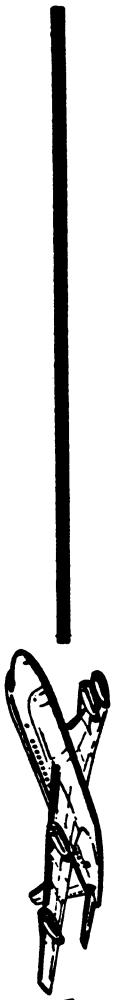


Figure 42. Aircraft Performance Curve, Takeoff (Douglas DC-8-50 Series)



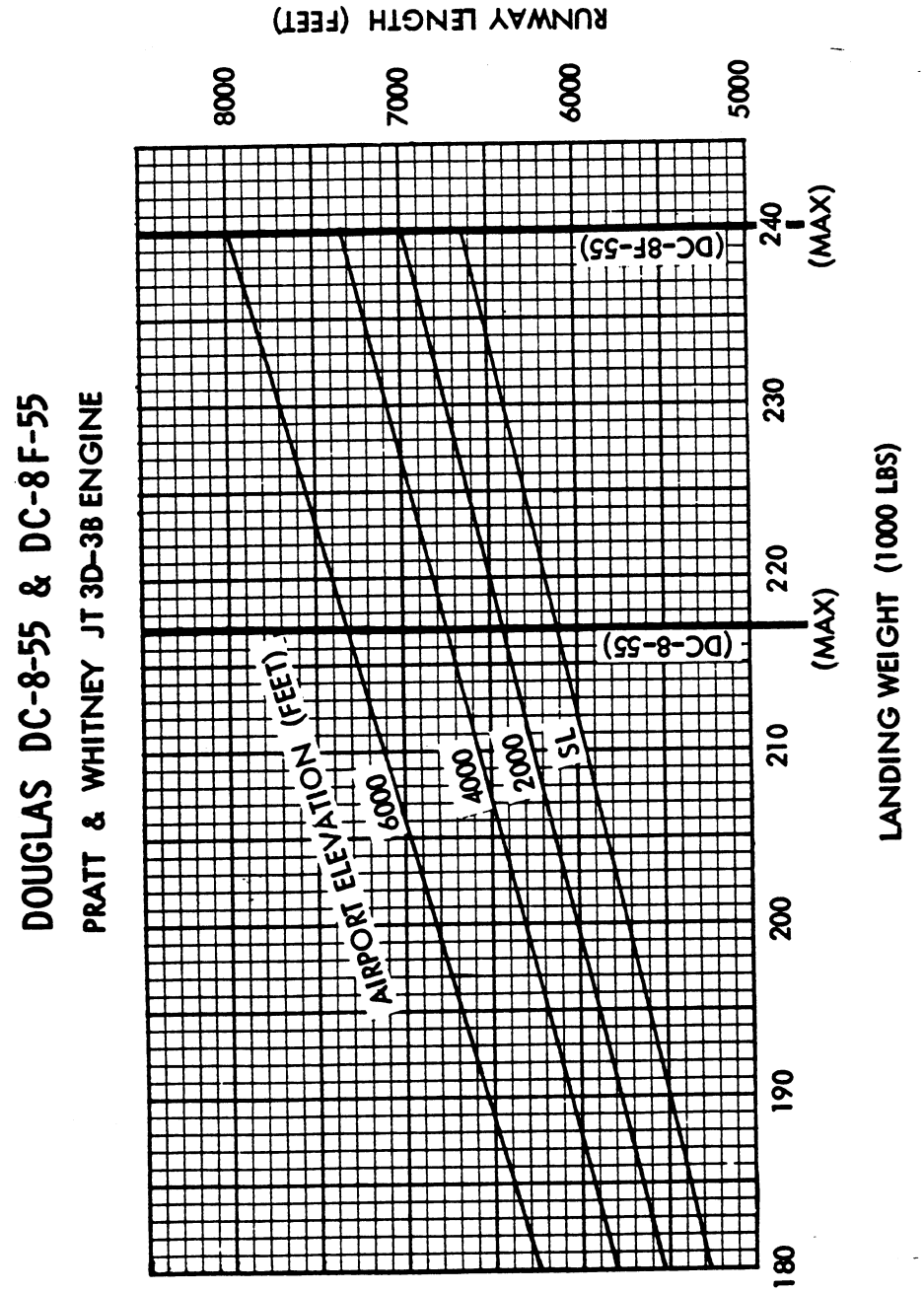


Figure 43. Aircraft Performance Curve, Landing (Douglas DC-8-55 & DC-8F-55

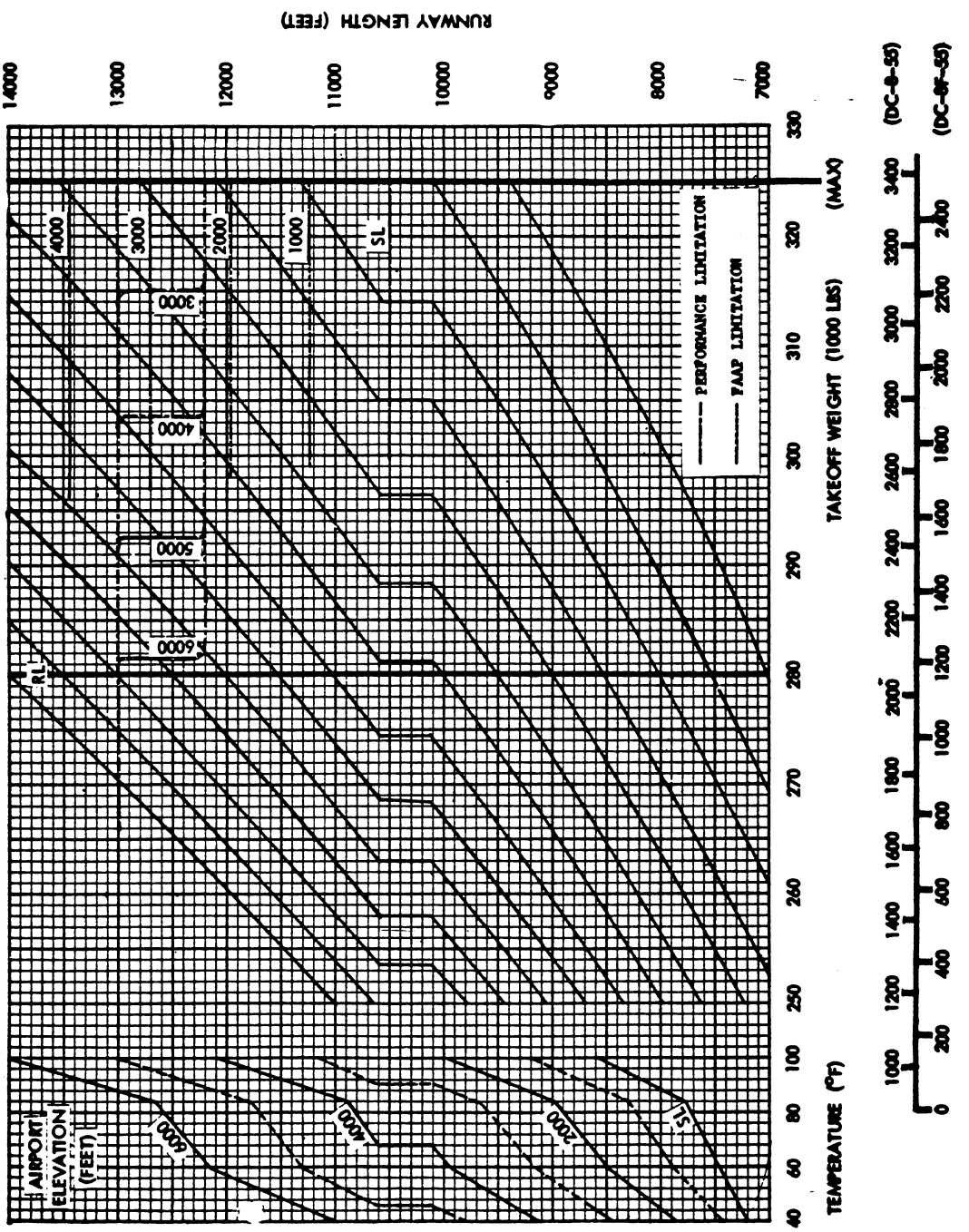


Figure 44. Aircraft Performance Curve, Takeoff (Douglas DC-8-55 & DC-8F-55)

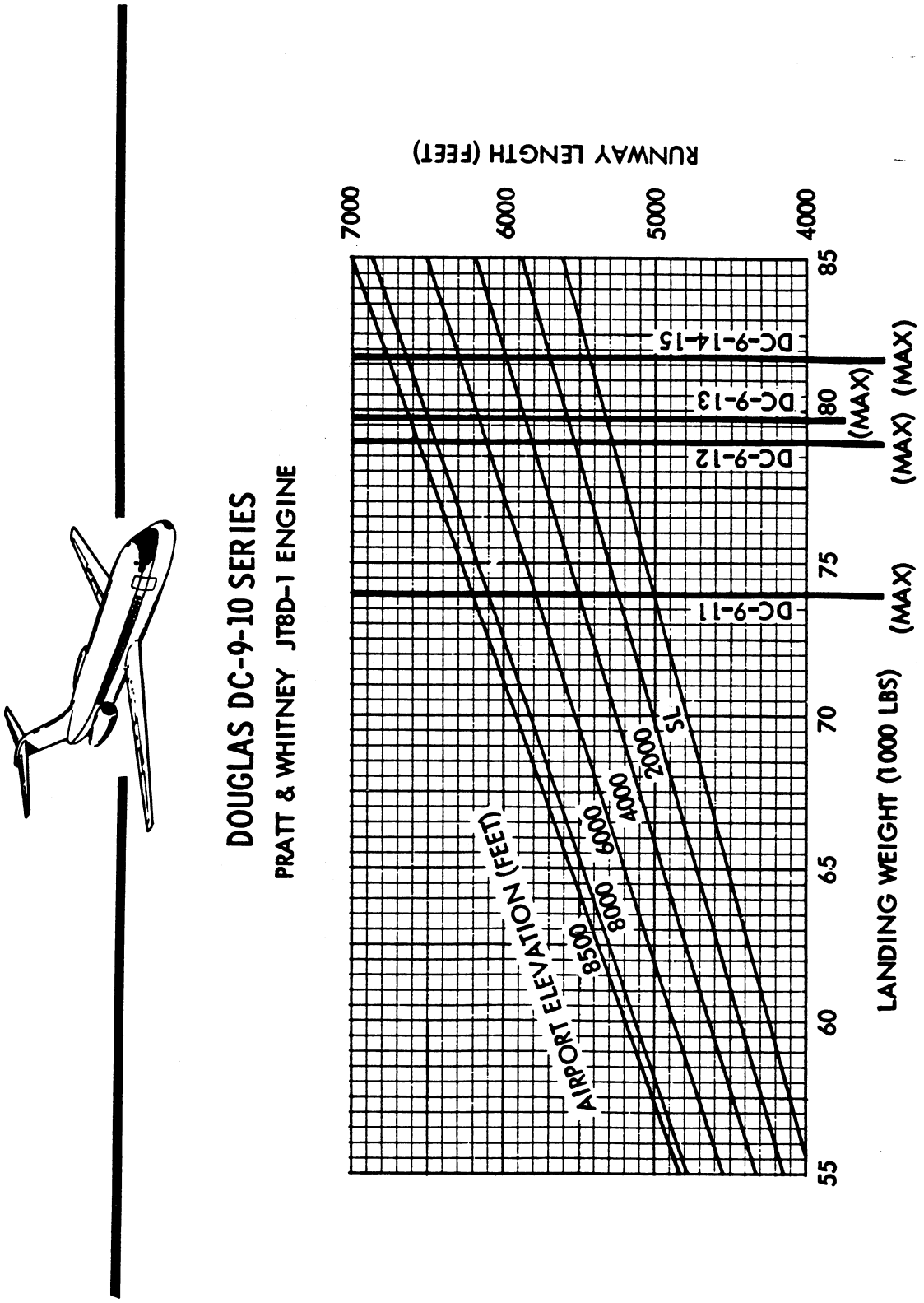


Figure 45. Aircraft Performance Curve, Landing (Douglas DC-9-10 Series)

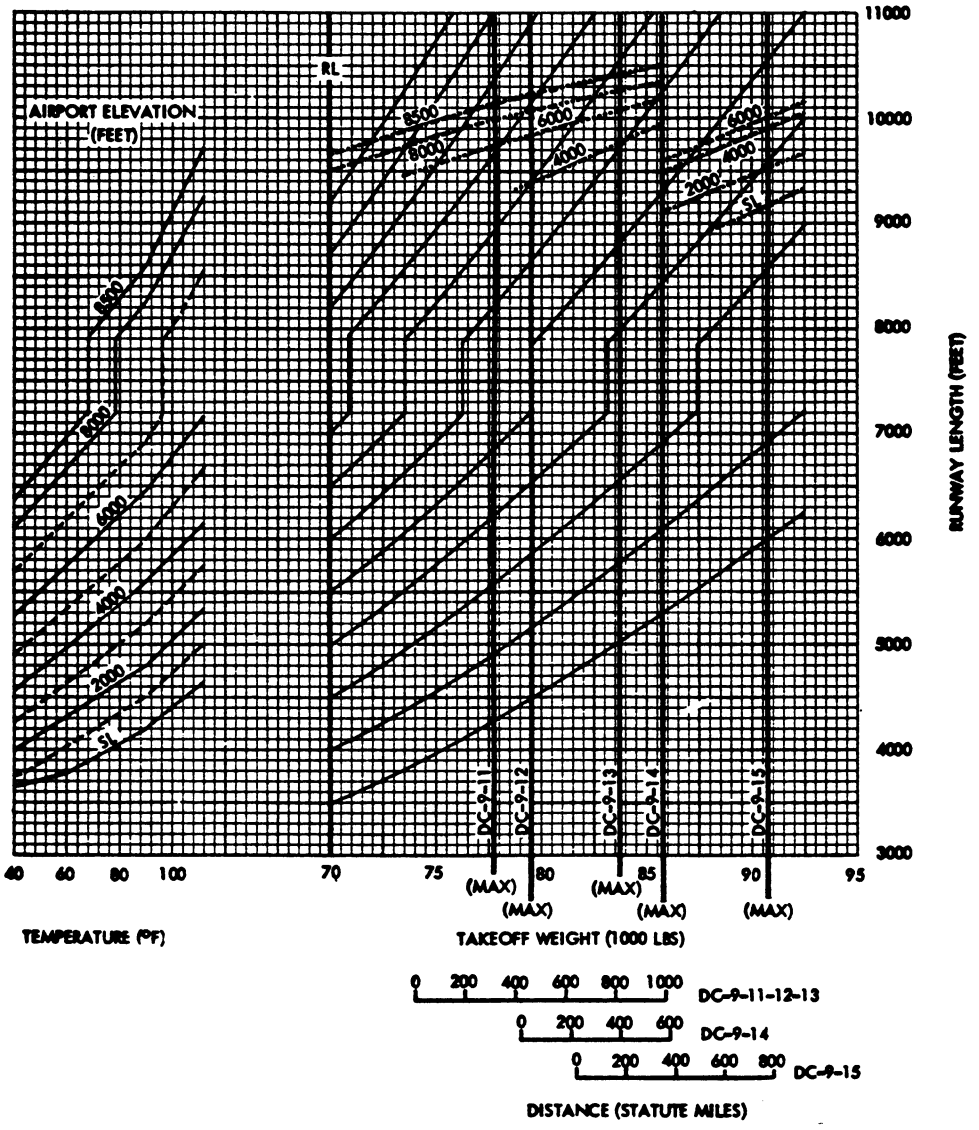


Figure 46. Aircraft Performance Curve, Takeoff (Douglas DC-9-10 Series)

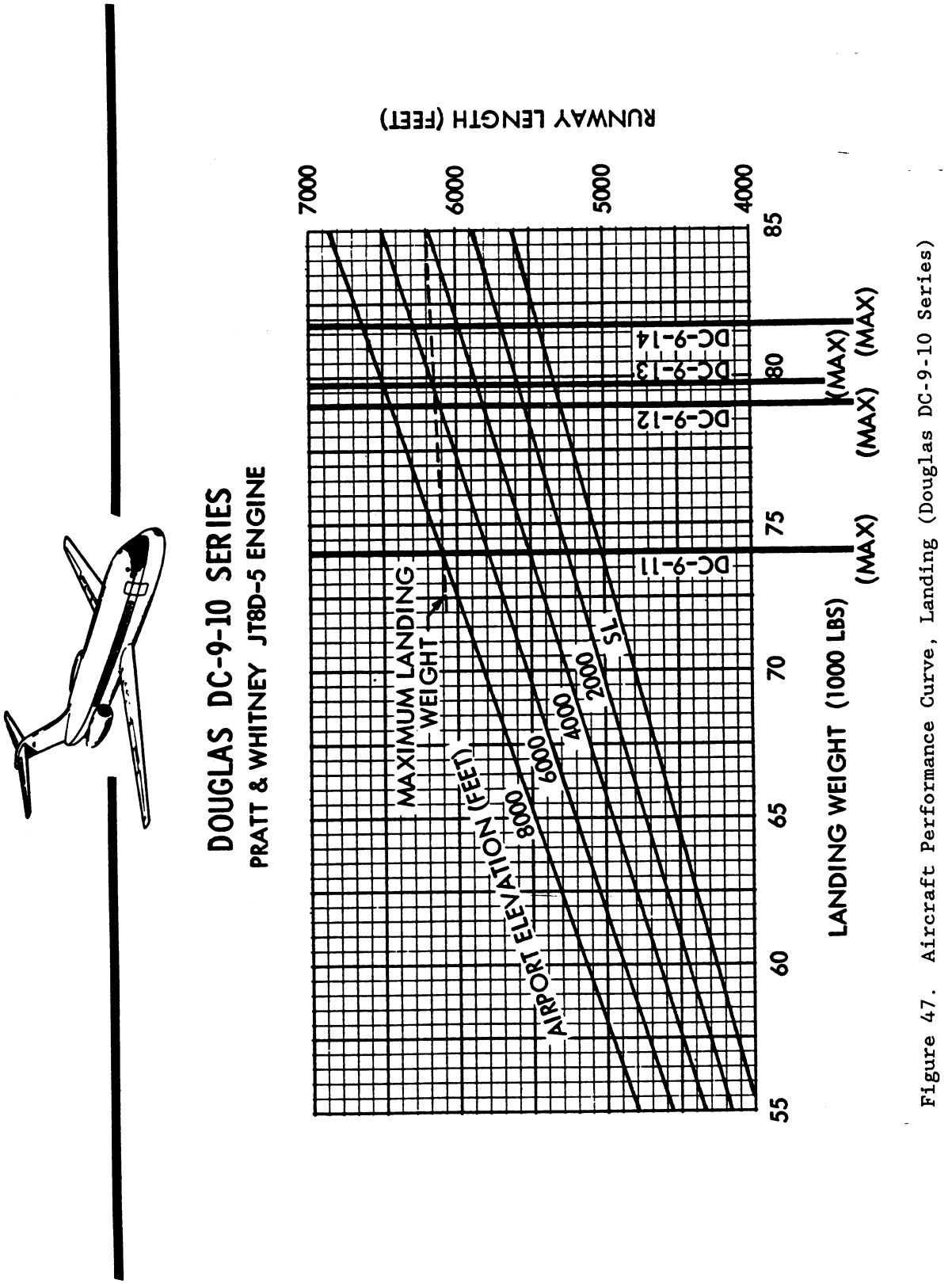


Figure 47. Aircraft Performance Curve, Landing (Douglas DC-9-10 Series)

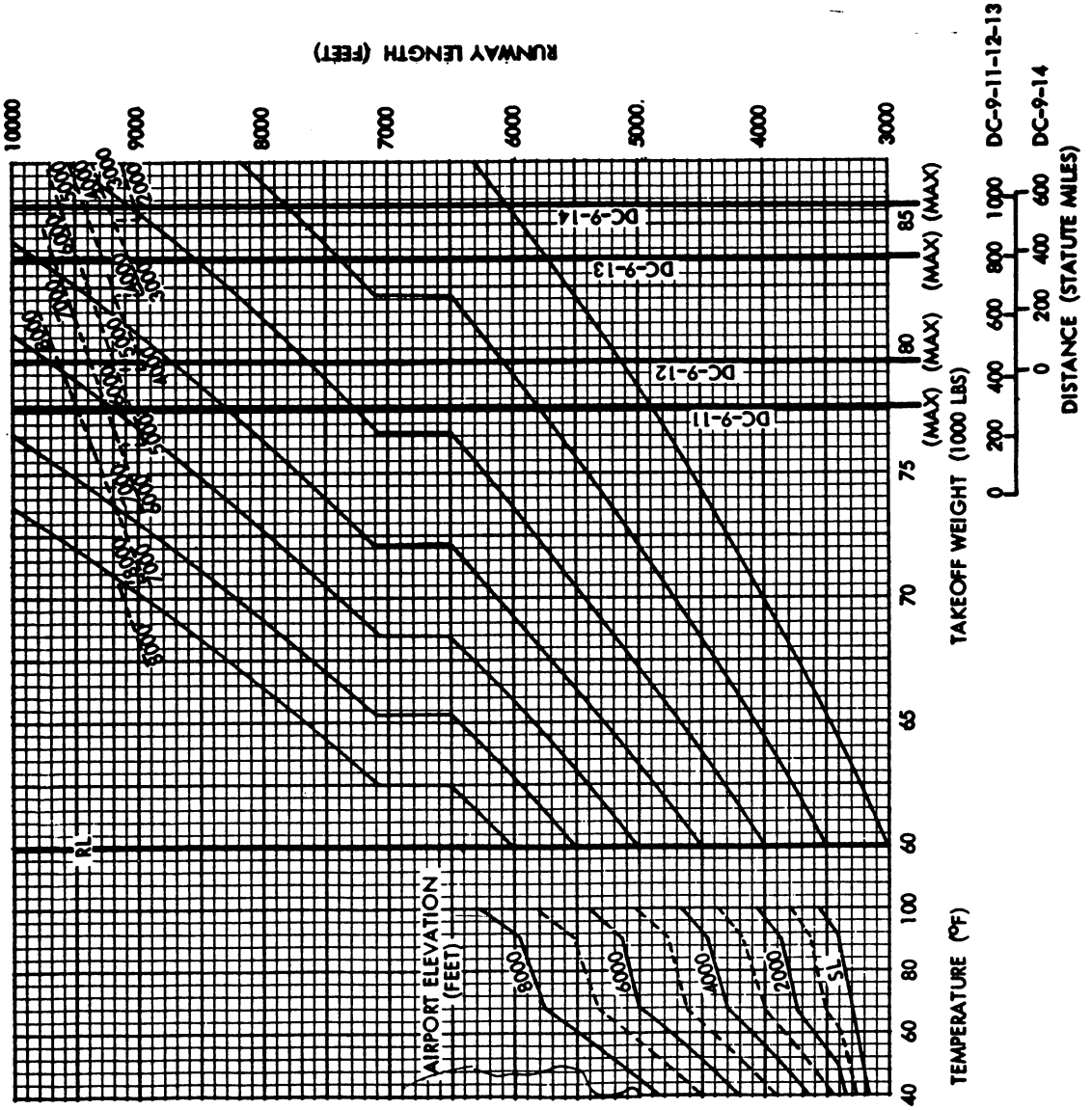
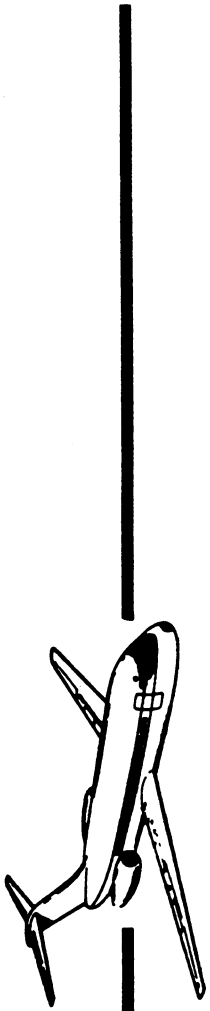


Figure 48. Aircraft Performance Curve, Takeoff (Douglas DC-9-10 Series)



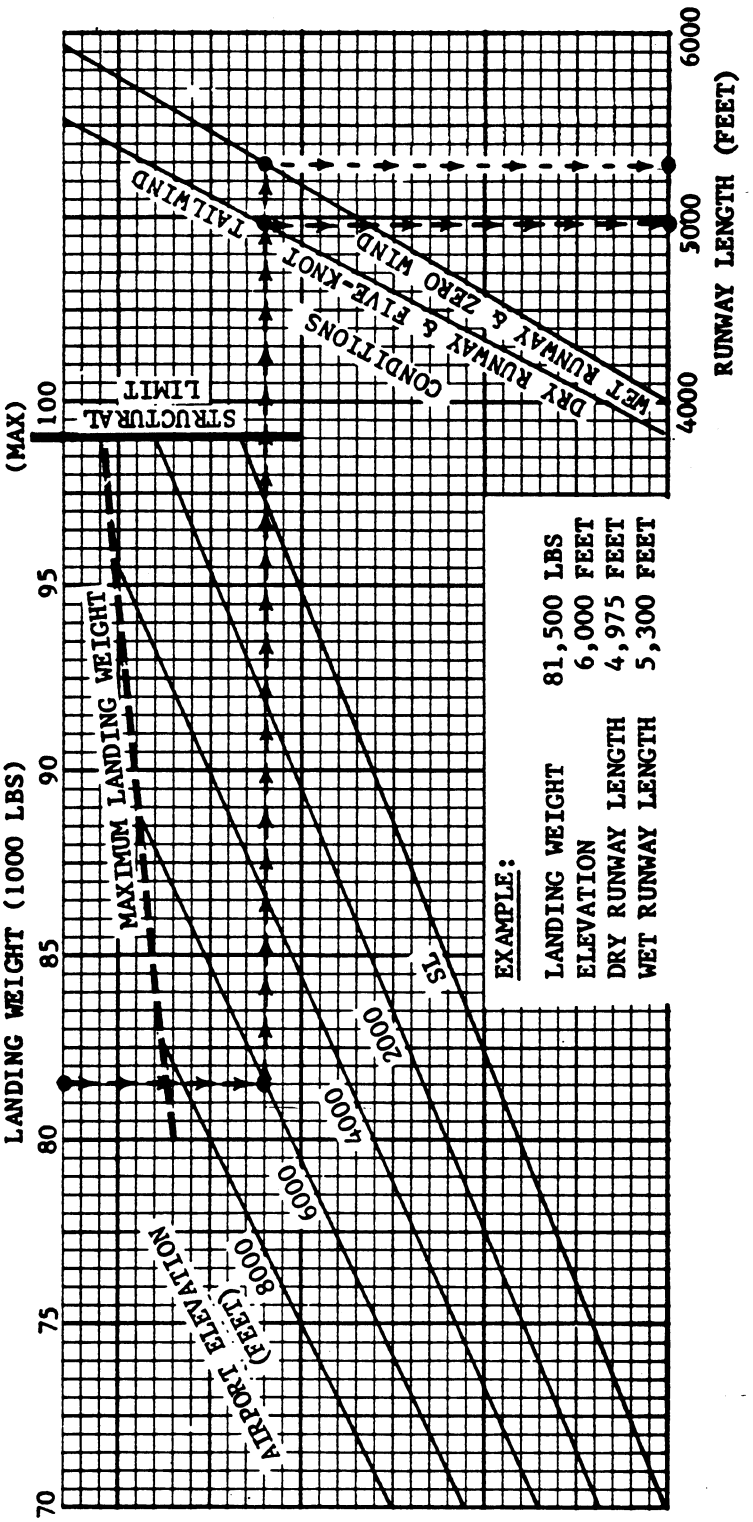


Figure 49. Aircraft Performance Curve, Landing (Douglas DC-9-30 Series)

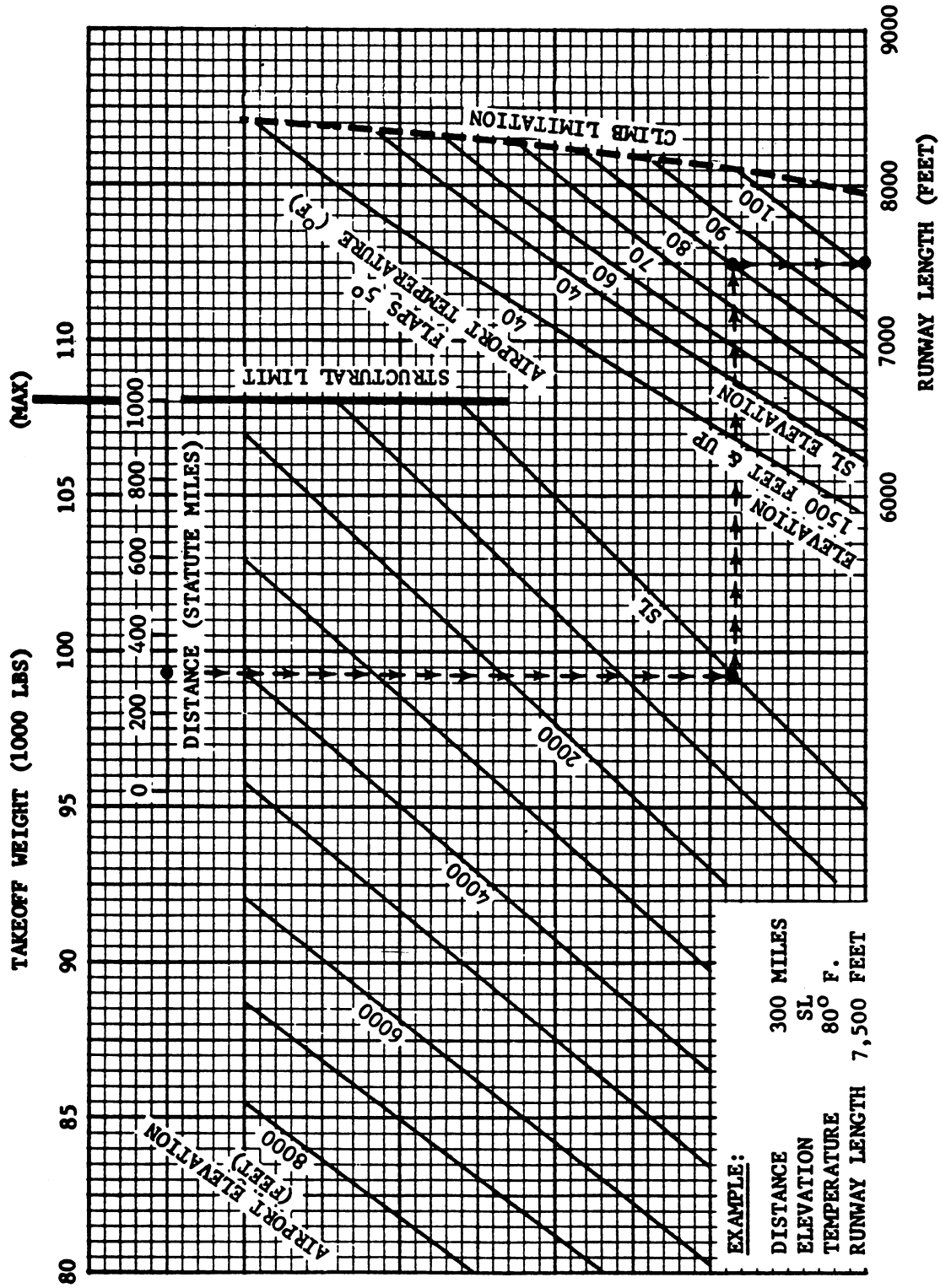


Figure 50. Aircraft Performance Curve, Takeoff (Douglas DC-9-30 Series)

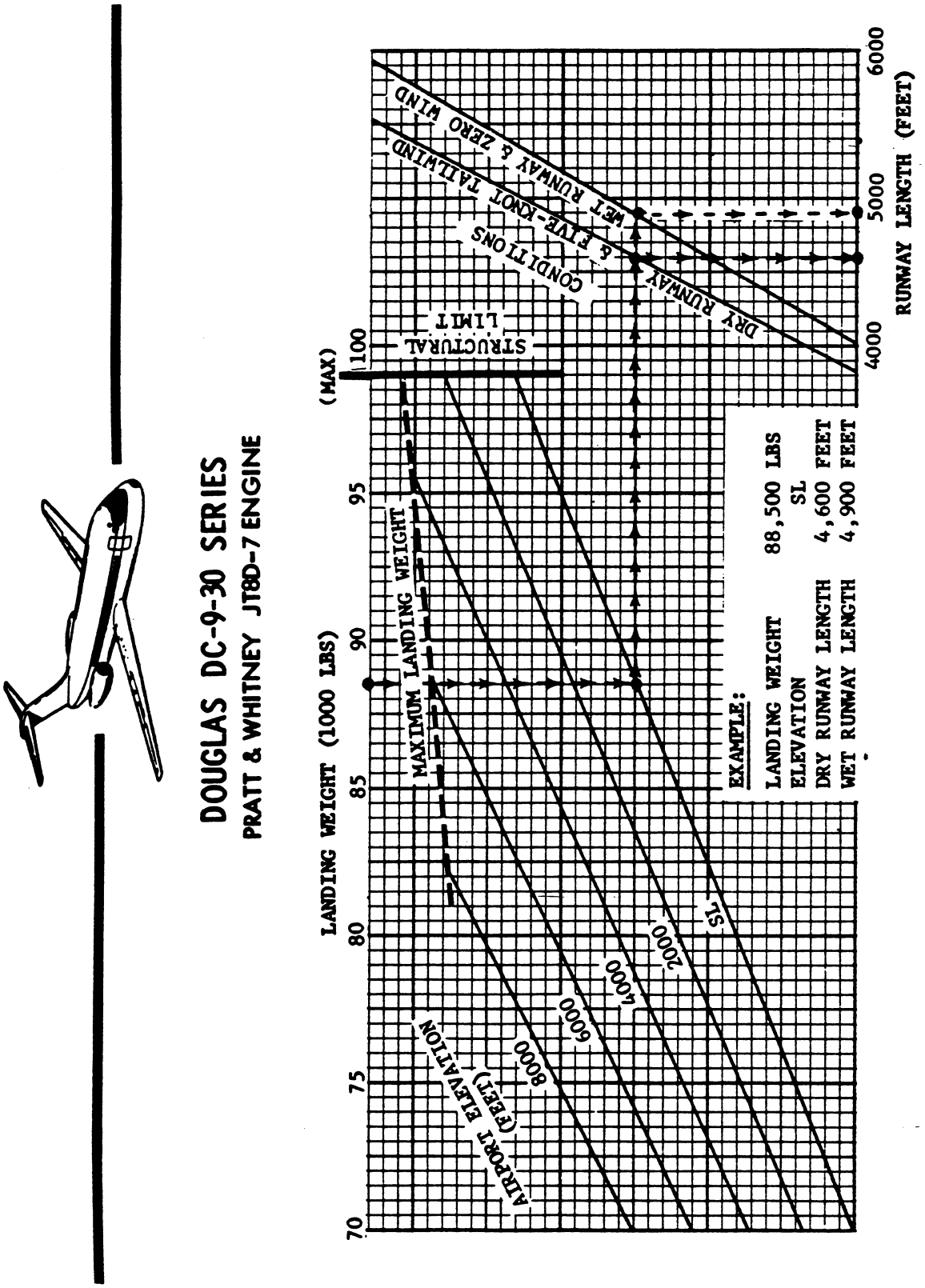


Figure 51. Aircraft Performance Curve, Landing (Douglas DC-9-30 Series)

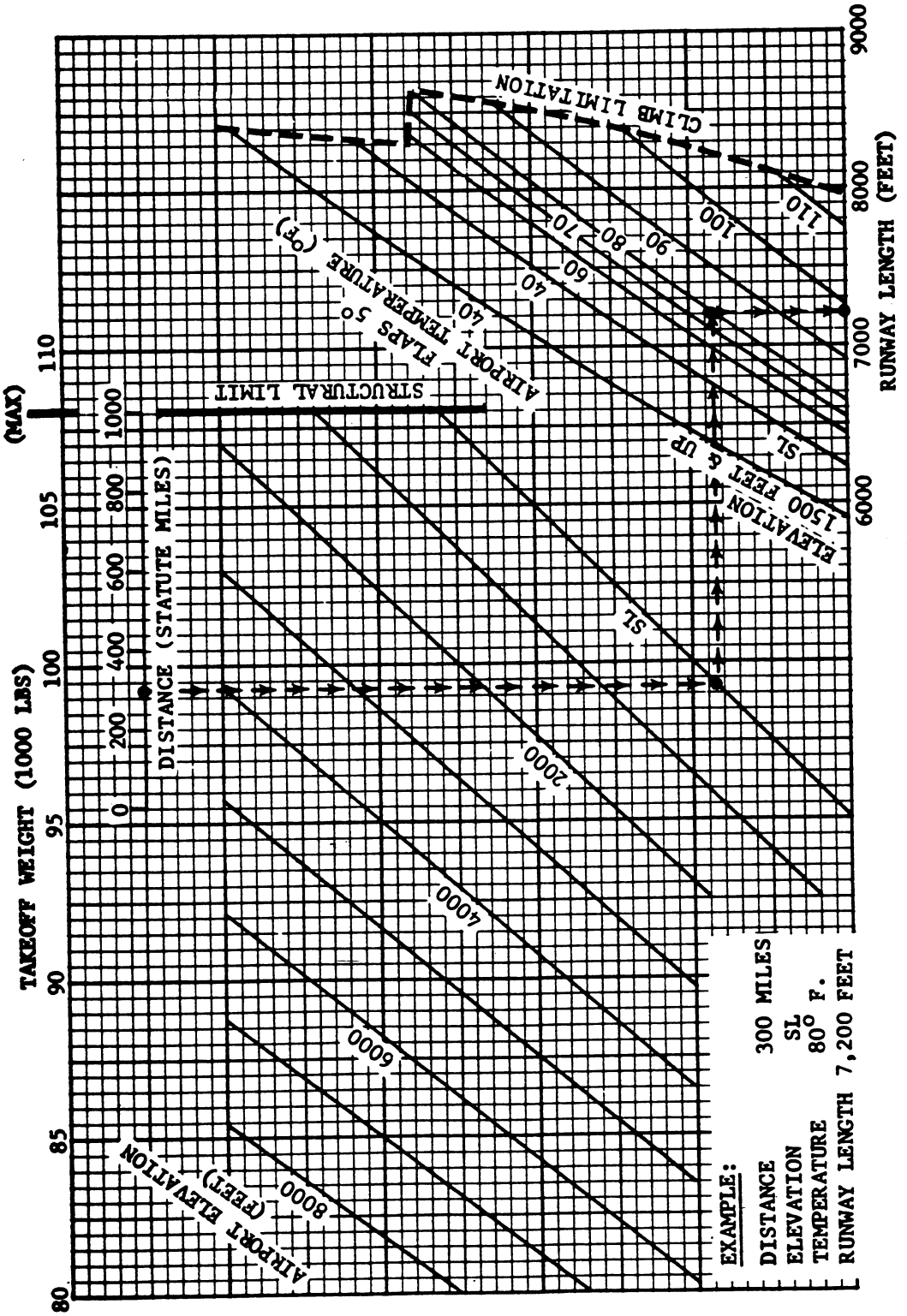


Figure 52. Aircraft Performance Curve, Takeoff (Douglas DC-9-30 Series)

APPENDIX 3. AIRPLANE PERFORMANCE TABLES

1. AIRPLANE PERFORMANCE TABLES. The data tables contained in this appendix are for large airplanes. Note that certain airplanes such as the Boeing 727-200 have tables for distinct engine power plants.

2. ENGLISH AND METRIC TABLES. The data tables contained in this appendix are expressed in both English (section 1) and metric (section 2) forms. The ultimate goal of this metrication activity is the unification of measurements used in domestic and international aviation. Distance, weight, and temperature conversion factors between the two systems are found in section 2.

SECTION 1. ENGLISH TABLES

3. EXPLANATORY INSTRUCTIONS. See chapter 3 for explanatory instructions and the design example problem on the use of the English data tables.

TABLE 1. AIRCRAFT PERFORMANCE, LANDING (BOEING 707-300C SERIES)
JT3D-3B ENGINE, 50° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	247.0	247.0	247.0	247.0	247.0	247.0	247.0	246.8	237.6
55	247.0	247.0	247.0	247.0	247.0	247.0	247.0	242.4	233.4
60	247.0	247.0	247.0	247.0	247.0	247.0	247.0	239.0	230.0
65	247.0	247.0	247.0	247.0	247.0	247.0	247.0	239.3	230.3
70	247.0	247.0	247.0	247.0	247.0	247.0	247.0	239.5	230.5
75	247.0	247.0	247.0	247.0	247.0	247.0	247.0	239.8	230.8
80	247.0	247.0	247.0	247.0	247.0	247.0	247.0	240.1	231.1
85	247.0	247.0	247.0	247.0	247.0	247.0	247.0	239.4	230.3
90	247.0	247.0	247.0	247.0	247.0	247.0	243.5	234.5	225.6
95	247.0	247.0	247.0	247.0	247.0	247.0	238.3	229.3	220.6
100	247.0	247.0	247.0	247.0	247.0	242.1	233.0	224.2	215.6
105	247.0	247.0	247.0	247.0	245.8	236.7	227.8	219.2	210.8
110	247.0	247.0	247.0	247.0	240.3	231.5	222.8	214.5	206.4

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
160	5.15	5.24	5.33	5.43	5.53	5.64	5.75	5.87	5.99
170	5.36	5.46	5.56	5.66	5.77	5.88	6.00	6.11	6.23
180	5.57	5.68	5.79	5.90	6.02	6.14	6.26	6.38	6.49
190	5.80	5.91	6.03	6.15	6.27	6.40	6.53	6.65	6.78
200	6.03	6.15	6.27	6.40	6.53	6.67	6.80	6.94	7.07
210	6.26	6.39	6.52	6.66	6.80	6.94	7.09	7.24	7.39
220	6.50	6.64	6.77	6.92	7.07	7.22	7.38	7.54	7.70
230	6.75	6.89	7.03	7.19	7.34	7.50	7.67	7.84	8.02
240	6.99	7.14	7.30	7.45	7.62	7.79	7.96	8.15	8.34
250	7.24	7.40	7.56	7.73	7.90	8.07	8.25	8.45	8.65

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	CONVERTIBLE PASSENGER	CONVERTIBLE CARGO	FREIGHTER
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL	LBS.	171,100	164,300	151,500
AVERAGE FUEL CONSUMPTION	LBS./MILE	27	27	27
TYPICAL MAXIMUM PASSENGER LOAD @200 LBS./PASSENGER	LBS.	38,800	-	-
MAXIMUM STRUCTURAL PAYLOAD	LBS.	74,900	81,700	94,500

TABLE 2. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 707-300C SERIES)
JT3D-3B ENGINE, 14° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	336.0	336.0	336.0	328.6	316.5	305.1	294.0	283.4	273.0
55	336.0	336.0	336.0	326.1	314.2	302.8	291.8	281.2	270.8
60	336.0	336.0	336.0	323.7	311.8	300.5	289.6	279.0	268.7
65	336.0	336.0	333.4	321.2	309.5	298.2	287.3	276.8	266.5
70	336.0	336.0	330.7	318.8	307.2	295.9	285.1	274.6	264.4
75	336.0	336.0	328.1	316.3	304.8	293.7	282.8	272.4	262.2
80	336.0	336.0	325.5	313.8	302.5	291.4	280.6	270.2	260.1
85	336.0	334.5	322.8	311.4	300.1	289.1	278.4	268.0	257.9
90	336.0	331.6	320.2	308.9	297.8	286.8	276.1	265.8	255.8
95	336.0	328.7	317.6	306.5	295.4	284.5	273.9	263.6	253.7
100	336.0	325.8	315.0	304.0	293.1	282.3	271.7	261.4	251.5
105	334.2	321.7	310.1	299.2	288.7	278.5	268.3	258.0	247.4
110	325.9	315.3	304.7	294.2	283.8	273.2	262.6	251.8	

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	61.0	65.0	67.5	73.0	79.2	86.0	93.6	101.8	110.8
55	62.4	65.7	68.6	74.3	80.7	87.7	95.4	103.9	113.2
60	63.6	66.3	69.8	75.7	82.1	89.3	97.2	105.9	115.5
65	64.6	66.8	71.0	77.0	83.6	90.8	98.9	107.8	117.7
70	65.5	67.1	72.3	78.3	85.0	92.4	100.6	109.7	119.8
75	66.2	68.0	73.6	79.8	86.5	94.0	102.4	111.7	122.0
80	66.8	69.3	75.0	81.3	88.1	95.7	104.2	113.7	124.3
85	67.2	70.7	76.5	82.9	89.8	97.6	106.2	115.9	126.8
90	67.5	72.2	78.1	84.6	91.7	99.5	108.4	118.3	129.5
95	68.1	73.8	79.9	86.4	93.6	101.7	110.7	120.9	132.4
100	69.7	75.5	81.7	88.4	95.8	104.1	113.4	123.9	135.8
105	71.4	77.4	83.7	90.6	98.2	106.7	116.3	127.2	139.5
110	73.2	79.4	85.9	93.0	100.8	109.6	119.6	130.9	

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 60	70	80	90	100	110	120	130	140
160	4.00	4.00	4.00	4.00	4.00	4.00	4.25	4.53	4.72
170	4.00	4.00	4.00	4.00	4.04	4.44	4.83	5.17	5.45
180	4.00	4.00	4.00	4.13	4.56	5.00	5.44	5.84	6.21
190	4.00	4.00	4.15	4.62	5.11	5.60	6.08	6.55	7.00
200	4.00	4.08	4.61	5.14	5.68	6.22	6.76	7.30	7.83
210	4.00	4.49	5.09	5.69	6.29	6.89	7.49	8.09	8.70
220	4.25	4.93	5.60	6.27	6.94	7.60	8.27	8.94	9.62
230	4.66	5.40	6.15	6.88	7.62	8.36	9.10	9.85	10.60
240	5.10	5.91	6.72	7.54	8.36	9.18	10.00	10.82	11.65
250	5.58	6.45	7.33	8.23	9.14	10.05	10.96	11.87	12.76
260	6.09	7.02	7.98	8.97	9.98	10.99	12.00	12.99	13.95
270	6.64	7.62	8.66	9.75	10.88	12.00	13.12	14.20	15.22
280	7.23	8.25	9.39	10.59	11.84	13.09	14.32	15.49	
290	7.84	8.92	10.15	11.48	12.86	14.25			
300	8.49	9.63	10.96	12.43	13.96				
310	9.16	10.37	11.82	13.43	15.13				
320	9.87	11.14	12.72	14.50					
330	10.59	11.95	13.67						
340	11.35	12.79	14.67						

TABLE 3. AIRCRAFT PERFORMANCE, LANDING (BOEING 727-100 SERIES)
JT8D-7 ENGINE, 40° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	137.5	137.5	137.5	137.5	137.5	137.5	136.0	131.5	126.4
55	137.5	137.5	137.5	137.5	137.5	137.5	135.9	130.9	126.3
60	137.5	137.5	137.5	137.5	137.5	137.5	135.7	130.7	126.0
65	137.5	137.5	137.5	137.5	137.5	137.5	135.6	130.5	125.7
70	137.5	137.5	137.5	137.5	137.5	137.5	134.9	129.8	125.1
75	137.5	137.5	137.5	137.5	137.5	137.5	133.9	128.8	124.1
80	137.5	137.5	137.5	137.5	137.5	137.5	132.4	127.4	122.8
85	137.5	137.5	137.5	137.5	137.5	135.6	130.6	125.6	121.1
90	137.5	137.5	137.5	137.5	137.5	133.3	128.4	123.5	119.1
95	137.5	137.5	137.5	137.5	135.3	130.7	125.8	121.0	116.7
100	137.5	137.5	137.5	136.6	132.3	127.6	122.8	118.2	114.0
105	137.5	137.5	137.5	133.5	128.9	124.2	119.5	115.0	110.9
110	137.5	137.5	135.0	130.0	125.1	120.3	115.8	111.5	107.5

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
105	4.00	4.07	4.15	4.25	4.34	4.45	4.55	4.65	4.75
110	4.14	4.22	4.30	4.40	4.50	4.60	4.71	4.82	4.92
115	4.29	4.37	4.46	4.55	4.65	4.76	4.87	4.98	5.10
120	4.43	4.52	4.61	4.71	4.82	4.93	5.04	5.16	5.28
125	4.58	4.68	4.78	4.88	4.99	5.10	5.22	5.34	5.46
130	4.73	4.84	4.94	5.06	5.17	5.29	5.41	5.53	5.65
135	4.89	5.00	5.12	5.23	5.35	5.48	5.60	5.72	5.85
140	5.05	5.17	5.29	5.42	5.55	5.67	5.80	5.93	5.95

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	ADVANCED PASSENGERS	OPTIONS QUICK CHANGE
MAXIMUM TAKEOFF WEIGHT	LBS.	160,000	169,000
MAXIMUM LANDING WEIGHT			
FLAPS 30°	LBS.	142,500	142,500
FLAPS 40°	LBS.	137,500	137,500
TYPICAL OPERATING EMPTY WEIGHT		101,330	101,330 1/
PLUS RESERVE FUEL	LBS.	107,468	107,468 2/
AVERAGE FUEL CONSUMPTION	LBS./MILE	19	19
TYPICAL MAXIMUM PASSENGER LOAD AT 200 LBS./PASSENGER	LBS.	25,000	18,800
MAXIMUM STRUCTURAL PAYLOAD	LBS.	32,400	40,900

1/ Based on 1.25 hours of reserve fuel.
2/ Based on 2.00 hours of reserve fuel.

TABLE 4. AIRCRAFT PERFORMANCE, LANDING (BOEING 727-100 SERIES)
JT8D-7 ENGINE, 30° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	142.5	142.5	142.5	142.5	142.5	142.5	142.5	141.0	142.5
55	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
60	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
65	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
70	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
75	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
80	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
85	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.2	140.4
90	142.5	142.5	142.5	142.5	142.5	142.5	142.5	140.7	137.3
95	142.5	142.5	142.5	142.5	142.5	142.5	142.5	138.6	134.2
100	142.5	142.5	142.5	142.5	142.5	142.5	141.5	136.2	131.0
105	142.5	142.5	142.5	142.5	142.5	142.5	138.4	133.3	127.8
110	142.5	142.5	142.5	142.5	142.5	140.3	135.2	130.0	124.5

RUNWAY LENGTH (1000 FEET)

WEIGHT 000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
105	4.39	4.50	4.59	4.68	4.77	4.85	4.94	5.04	5.15
110	4.54	4.63	4.72	4.82	4.92	5.02	5.13	5.24	5.35
115	4.69	4.77	4.86	4.97	5.08	5.20	5.32	5.44	5.55
120	4.84	4.91	5.01	5.12	5.25	5.38	5.51	5.64	5.75
125	4.99	5.07	5.17	5.29	5.42	5.56	5.70	5.83	5.95
130	5.15	5.23	5.34	5.46	5.60	5.74	5.88	6.02	6.15
135	5.30	5.40	5.51	5.64	5.78	5.93	6.07	6.21	6.34
140	5.46	5.58	5.70	5.84	5.97	6.11	6.26	6.40	6.54
145	5.62	5.76	5.90	6.04	6.17	6.30	6.44	6.59	6.65

TABLE 5. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-100 SERIES)
JT8D-7 ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	163.6	157.9	152.3	146.8	141.4	136.2	131.0	126.0	121.2
55	162.0	156.3	150.7	145.2	139.9	134.7	129.7	124.8	120.0
60	160.0	153.9	148.2	142.8	137.7	133.0	128.4	124.1	120.0
65	160.0	153.9	148.2	142.8	137.7	133.0	128.4	124.1	120.0
70	160.0	153.9	148.2	142.8	137.7	133.0	128.4	124.1	120.0
75	160.0	153.9	148.2	142.8	137.7	133.0	128.4	124.1	120.0
80	160.0	153.9	148.2	142.8	137.7	133.0	128.4	124.1	120.0
85	160.0	153.9	148.2	142.8	136.9	131.9	127.0	122.3	117.5
90	155.6	149.9	144.4	139.1	134.0	129.0	124.2	119.6	115.0
95	152.1	146.5	141.2	136.0	131.0	126.2	121.4	116.9	112.4
100	148.5	143.2	138.0	133.0	128.1	123.3	118.7	114.2	109.8
105	145.0	139.9	134.8	129.9	125.1	120.4	115.9	111.5	107.2
110	141.5	136.5	131.6	126.9	122.2	117.6	113.1	108.7	104.5

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	36.5	38.3	40.6	43.3	46.5	50.1	54.4	59.1	64.5
55	36.5	38.3	41.3	44.2	47.6	51.3	55.6	60.5	66.0
60	36.5	38.4	41.3	44.2	47.6	51.3	55.6	60.8	67.0
65	36.5	38.5	41.4	44.3	47.6	51.3	55.7	61.0	67.5
70	36.6	38.9	41.7	44.7	48.0	51.8	56.2	61.5	67.7
75	36.7	39.4	42.3	45.4	48.8	52.7	57.2	62.4	68.5
80	37.5	40.2	43.1	46.3	49.8	53.9	58.5	63.9	70.0
85	38.4	41.1	44.1	47.4	51.2	55.4	60.3	65.8	72.1
90	39.5	42.3	45.4	48.9	52.8	57.3	62.4	68.3	74.9
95	40.8	43.6	46.9	50.5	54.7	59.5	65.0	71.2	78.3
100	42.2	45.2	48.6	52.5	56.9	62.1	68.0	74.7	82.4
105	43.8	46.9	50.5	54.7	59.4	64.9	71.3	78.7	87.1
110	45.5	48.9	52.7	57.1	62.2	68.2	75.1	83.2	92.5

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 36	46	56	66 — 76	86	96
100	2.78	3.39	3.96	4.50	5.00	5.47	5.90
105	2.95	3.63	4.28	4.91	5.51	6.06	6.57
110	3.14	3.91	4.67	5.41	6.12	6.79	7.41
115	3.36	4.23	5.10	5.97	6.82	7.64	8.41
120	3.60	4.59	5.60	6.61	7.62	8.62	9.59
125	3.87	4.99	6.14	7.32	8.52		
130	4.16	5.43	6.75	8.11	9.51		
135	4.48	5.91	7.41	8.97			
140	4.82	6.43	8.12				
145	5.18	6.99	8.89				
150	5.57	7.60					
155	5.98	8.24					
160	6.41	8.92					
165	6.87						
170	7.35						

TABLE 6. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-100 SERIES)
JT8D-7 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	169.0	169.0	169.0	166.1	160.1	154.0	148.0	142.3	137.2
55	169.0	169.0	169.0	163.9	158.0	152.1	146.3	140.8	135.7
60	169.0	169.0	167.0	161.0	155.4	150.1	145.1	140.2	135.5
65	169.0	169.0	167.0	161.0	155.4	150.1	145.1	140.2	135.5
70	169.0	169.0	167.0	161.0	155.4	150.1	145.1	140.2	135.5
75	169.0	169.0	167.0	161.0	155.4	150.1	145.1	140.2	135.5
80	169.0	169.0	167.0	161.0	155.4	150.1	145.1	140.2	135.5
85	169.0	169.0	167.0	161.0	155.4	148.6	143.1	137.7	132.4
90	169.0	168.9	162.8	156.9	151.1	145.4	140.0	134.6	129.5
95	169.0	165.2	159.3	153.5	147.8	142.2	136.8	131.6	126.6
100	167.4	161.5	155.7	150.0	144.4	139.0	133.7	128.6	123.7
105	163.6	157.9	152.2	146.6	141.1	135.8	130.6	125.6	120.8
110	160.0	154.2	148.6	143.1	137.7	132.5	127.5	122.7	118.0

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	43.7	45.8	48.6	51.9	55.7	60.1	65.0	70.3	76.2
55	44.1	46.8	49.9	53.5	57.5	61.9	66.9	72.5	78.6
60	44.5	47.8	51.3	55.1	59.2	63.8	68.9	74.6	81.0
65	44.5	47.8	51.3	55.1	59.2	63.8	68.9	74.6	81.0
70	44.5	47.8	51.3	55.1	59.2	63.8	68.9	74.6	81.0
75	44.7	48.0	51.6	55.4	59.6	64.3	69.4	75.1	81.5
80	45.7	48.9	52.4	56.4	60.7	65.5	70.8	76.7	83.1
85	46.8	50.0	53.6	57.6	62.1	67.1	72.6	78.6	85.1
90	48.2	51.3	55.0	59.2	63.9	69.1	74.7	81.0	87.7
95	49.6	52.9	56.8	61.1	66.0	71.3	77.3	83.7	90.7
100	51.3	54.8	58.8	63.3	68.4	74.0	80.2	86.9	94.3
105	53.1	56.9	61.1	65.9	71.2	77.0	83.4	90.5	98.2
110	55.0	59.2	63.8	68.8	74.3	80.4	87.1	94.5	102.7

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 42	52	62	72	82	92	102	112
100	2.89	3.44	4.02	4.63	5.23	5.81	6.34	6.81
105	3.11	3.74	4.40	5.08	5.75	6.39	7.00	7.55
110	3.35	4.07	4.81	5.56	6.30	7.02	7.72	8.37
115	3.61	4.42	5.25	6.07	6.89	7.70	8.49	9.24
120	3.89	4.80	5.71	6.62	7.53	8.42	9.31	10.13
125	4.19	5.20	6.20	7.20	8.20	9.20	10.19	11.13
130	4.51	5.62	6.72	7.82	8.91	10.01	11.12	
135	4.84	6.07	7.27	8.47	9.67	10.88		
140	5.20	6.53	7.85	9.15	10.46	11.79		
145	5.57	7.03	8.45	9.87	11.29			
150	5.96	7.54	9.09	10.62				
155	6.37	8.08	9.75	11.40				
160	6.81	8.64	10.44					
165	7.26	9.23	11.15					
170	7.72	9.84	11.90					

TABLE 7. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-100 SERIES)
JT8D-7 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	169.0	169.0	169.0	169.0	169.0	164.9	158.2	152.1	146.8
55	169.0	169.0	169.0	169.0	169.0	162.8	156.7	150.7	145.0
60	169.0	169.0	169.0	169.0	166.4	160.3	154.5	149.3	144.8
65	169.0	169.0	169.0	169.0	166.4	160.3	154.5	149.3	144.8
70	169.0	169.0	169.0	169.0	166.4	160.3	154.5	149.3	144.8
75	169.0	169.0	169.0	169.0	166.4	160.3	154.5	149.3	144.8
80	169.0	169.0	169.0	169.0	166.4	160.3	154.5	149.3	144.8
85	169.0	169.0	169.0	169.0	166.4	160.3	153.3	147.4	141.9
90	169.0	169.0	169.0	166.1	161.3	155.8	150.1	144.3	138.8
95	169.0	169.0	168.8	163.7	158.2	152.5	146.8	141.1	135.7
100	169.0	169.0	166.7	160.7	154.9	149.1	143.5	138.0	132.7
105	169.0	169.0	163.4	157.3	151.4	145.7	140.2	134.9	129.7
110	169.0	164.7	159.0	153.3	147.8	142.3	136.9	131.7	126.7

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	56.3	59.3	63.4	68.3	74.0	80.5	87.5	95.0	103.0
55	56.6	60.4	64.9	70.1	76.0	82.6	89.7	97.5	105.7
60	57.0	61.5	66.5	72.0	78.0	84.7	92.0	99.9	108.5
65	57.0	61.5	66.5	72.0	78.0	84.7	92.0	99.9	108.5
70	57.0	61.5	66.5	72.0	78.0	84.7	92.0	99.9	108.5
75	57.5	62.0	67.0	72.4	78.4	85.0	92.4	100.5	109.5
80	58.7	63.3	68.4	73.9	80.1	86.9	94.4	102.8	112.0
85	60.3	65.0	70.2	75.9	82.2	89.3	97.0	105.6	115.1
90	62.2	67.1	72.4	78.3	84.9	92.2	100.2	109.1	118.8
95	64.4	69.5	75.1	81.2	88.1	95.6	104.0	113.1	123.1
100	67.0	72.3	78.1	84.6	91.8	99.6	108.2	117.7	128.0
105	69.8	75.4	81.6	88.4	95.9	104.1	113.1	122.9	133.4
110	73.0	79.0	85.5	92.7	100.6	109.2	118.5	128.6	139.5

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 60	70	80	90	100	110	120	130	140
100	3.10	3.70	4.25	4.77	5.27	5.75	6.24	6.75	7.28
105	3.46	4.10	4.70	5.27	5.83	6.38	6.94	7.50	8.09
110	3.83	4.51	5.17	5.81	6.43	7.05	7.67	8.30	8.95
115	4.23	4.96	5.68	6.38	7.07	7.76	8.45	9.15	9.86
120	4.64	5.43	6.21	6.98	7.75	8.51	9.28	10.04	10.82
125	5.08	5.93	6.78	7.62	8.46	9.30	10.14	10.98	11.83
130	5.53	6.46	7.38	8.30	9.21	10.13	11.05	11.97	12.89
135	6.01	7.01	8.01	9.00	10.00	11.00	12.00	13.00	14.00
140	6.51	7.59	8.67	9.75	10.83	11.91	12.99	14.08	
145	7.02	8.19	9.36	10.53	11.69	12.86	14.03		
150	7.56	8.82	10.08	11.34	12.60	13.85			
155	8.12	9.48	10.83	12.19	13.53	14.88			
160	8.70	10.16	11.62	13.07	14.51				
165	9.30	10.87	12.43	13.98					
170	9.92	11.61	13.28	14.94					

TABLE 8. AIRCRAFT PERFORMANCE, LANDING (BOEING 727-200 SERIES)
JT8D-7 ENGINE, 40° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	142.5	142.5	142.5	142.5	142.5	142.5	137.9	132.7	127.7
55	142.5	142.5	142.5	142.5	142.5	141.8	135.7	130.8	126.2
60	142.5	142.5	142.5	142.5	142.5	139.0	134.5	130.4	126.2
65	142.5	142.5	142.5	142.5	142.5	139.0	134.5	130.4	126.2
70	142.5	142.5	142.5	142.5	142.5	139.0	134.5	130.4	126.2
75	142.5	142.5	142.5	142.5	142.5	139.0	134.5	130.4	126.2
80	142.5	142.5	142.5	142.5	142.5	139.0	134.5	130.2	125.0
85	142.5	142.5	142.5	142.5	142.5	138.3	133.1	128.1	123.3
90	142.5	142.5	142.5	142.5	140.6	135.4	130.3	125.5	120.8
95	142.5	142.5	142.5	142.5	137.4	132.3	127.3	122.6	118.0
100	142.5	142.5	142.5	139.4	134.2	129.2	124.3	119.5	114.9
105	142.5	142.5	141.2	136.0	131.0	126.0	121.2	116.6	112.0
110	142.5	142.5	137.7	132.7	127.8	123.0	118.3	113.8	109.4

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
110	4.01	4.09	4.17	4.26	4.36	4.46	4.56	4.66	4.75
115	4.15	4.23	4.31	4.40	4.50	4.60	4.70	4.81	4.92
120	4.29	4.38	4.47	4.56	4.66	4.76	4.87	4.98	5.10
125	4.43	4.54	4.64	4.73	4.83	4.94	5.05	5.17	5.30
130	4.59	4.70	4.81	4.91	5.02	5.13	5.24	5.37	5.51
135	4.74	4.86	4.98	5.09	5.20	5.32	5.44	5.57	5.72
140	4.91	5.03	5.14	5.26	5.38	5.50	5.63	5.77	5.92
145	5.08	5.19	5.30	5.42	5.55	5.68	5.82	5.96	6.11
150	5.25	5.34	5.44	5.56	5.69	5.83	5.98	6.14	6.30

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	STANDARD OPTION
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL	LBS.	114,800
AVERAGE FUEL CONSUMPTION	LBS./MILE	19
TYPICAL MAXIMUM PASSENGER LOAD @200 LBS./PASSENGER	LBS.	26,800
MAXIMUM STRUCTURAL PAYLOAD	LBS.	38,800

TABLE 9. AIRCRAFT PERFORMANCE, LANDING (BOEING 727-200 SERIES)
JT8D-7 ENGINE, 30° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	145.7
55	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	143.7
60	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	143.7
65	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	143.7
70	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	143.7
75	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	143.7
80	148.0	148.0	148.0	148.0	148.0	148.0	148.0	147.8	142.3
85	148.0	148.0	148.0	148.0	148.0	148.0	148.0	146.0	140.5
90	148.0	148.0	148.0	148.0	148.0	148.0	148.0	142.6	137.2
95	148.0	148.0	148.0	148.0	148.0	148.0	144.9	139.4	134.2
100	148.0	148.0	148.0	148.0	148.0	147.1	141.6	136.2	131.0
105	148.0	148.0	148.0	148.0	148.0	143.7	138.3	132.9	127.5
110	148.0	148.0	148.0	148.0	145.7	140.2	134.8	129.2	123.3

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
110	4.43	4.52	4.62	4.72	4.82	4.93	5.04	5.15	5.27
115	4.58	4.67	4.78	4.88	4.99	5.10	5.21	5.33	5.46
120	4.73	4.83	4.94	5.05	5.16	5.28	5.40	5.52	5.66
125	4.88	4.99	5.10	5.22	5.33	5.46	5.59	5.72	5.86
130	5.04	5.15	5.27	5.39	5.52	5.64	5.78	5.92	6.06
135	5.20	5.32	5.44	5.57	5.70	5.83	5.97	6.12	6.27
140	5.37	5.49	5.62	5.75	5.88	6.02	6.17	6.32	6.47
145	5.53	5.66	5.79	5.93	6.07	6.21	6.36	6.52	6.67
150	5.70	5.83	5.97	6.11	6.25	6.40	6.56	6.71	6.86

TABLE 10. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES)
JT8D-7 ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	164.2	162.4	156.8	151.2	145.7	140.3	135.1	130.0	125.1
55	164.2	160.2	154.6	149.0	143.5	138.1	132.9	128.0	123.3
60	163.8	158.2	152.4	146.8	141.5	136.4	131.8	127.5	123.3
65	163.8	158.2	152.4	146.8	141.5	136.4	131.8	127.5	123.3
70	163.8	158.2	152.4	146.8	141.5	136.4	131.8	127.5	123.3
75	163.8	158.2	152.4	146.8	141.5	136.4	131.8	127.5	123.3
80	163.8	158.2	152.4	146.8	141.5	136.4	131.8	127.4	122.2
85	163.2	157.4	151.8	146.3	140.9	135.7	130.6	125.7	120.9
90	159.7	154.0	148.5	143.1	137.9	132.8	127.9	123.1	118.5
95	156.2	150.7	145.3	140.0	134.9	129.9	125.0	120.4	115.9
100	152.7	147.3	142.0	136.9	131.8	126.9	122.2	117.6	113.1
105	149.2	143.9	138.8	133.7	128.8	124.0	119.3	114.8	
110	145.7	140.6	135.5	130.5	125.7	121.0	116.5	112.2	

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	35.2	36.8	39.5	42.5	46.0	49.9	54.3	59.1	64.3
55	35.7	37.7	40.6	43.9	47.5	51.5	56.0	60.9	66.3
60	36.0	38.7	41.7	45.1	48.9	53.2	56.8	61.2	66.7
65	36.3	38.9	42.0	45.4	49.3	53.6	57.2	61.7	67.4
70	36.5	39.2	42.2	45.7	49.6	53.9	57.8	62.2	67.7
75	36.8	39.4	42.5	46.0	49.9	54.3	58.3	62.8	68.2
80	37.0	39.7	42.8	46.3	50.3	54.6	58.7	63.6	69.5
85	37.3	40.2	43.4	46.9	50.8	55.2	60.0	65.3	71.1
90	38.4	41.5	44.9	48.7	52.8	57.3	62.3	67.7	73.7
95	39.8	43.1	46.6	50.5	54.8	59.5	64.7	70.4	76.6
100	41.3	44.7	48.5	52.6	57.0	61.9	67.3	73.3	79.7
105	43.0	46.5	50.4	54.7	59.4	64.5	70.1	76.3	
110	44.8	48.5	52.6	57.0	61.9	67.2	73.1	79.5	

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 35	40	45	50	55	60	65	70	75	80
110	3.42	3.55	3.80	4.12	4.51	4.94	5.38	5.80	6.19	6.51
115	3.41	3.74	4.12	4.55	5.01	5.47	5.94	6.38	6.79	7.15
120	3.51	4.00	4.50	5.00	5.50	6.01	6.50	6.99	7.46	7.92
125	3.70	4.32	4.91	5.47	6.02	6.56	7.10	7.66	8.25	8.87
130	3.97	4.70	5.35	5.96	6.55	7.14	7.76	8.44	9.19	
135	4.30	5.12	5.83	6.48	7.11	7.78	8.50			
140	4.69	5.57	6.33	7.02	7.72	8.47				
145	5.11	6.04	6.85	7.59	8.37					
150	5.55	6.53	7.38	8.19	9.08					
155	5.99	7.03	7.93	8.83						
160	6.42	7.51	8.48							
165	6.83	7.98	9.04							

TABLE 11. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES)
JT8D-7 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	173.0	173.0	173.0	169.5	163.4	157.4	151.6	145.9	140.2
55	173.0	173.0	173.0	167.0	161.0	155.1	149.4	144.0	138.9
60	173.0	173.0	170.9	164.7	158.9	153.4	148.3	143.4	138.9
65	173.0	173.0	170.9	164.7	158.9	153.4	148.3	143.4	138.9
70	173.0	173.0	170.9	164.7	158.9	153.4	148.3	143.4	138.9
75	173.0	173.0	170.9	164.7	158.9	153.4	148.3	143.4	138.9
80	173.0	173.0	170.9	164.7	158.9	153.4	148.3	142.8	137.5
85	173.0	173.0	170.2	164.0	158.1	152.3	146.7	141.2	135.8
90	173.0	172.7	166.5	160.4	154.6	148.9	143.5	138.1	132.9
95	173.0	168.9	162.8	156.9	151.1	145.6	140.2	135.1	130.0
100	171.2	165.1	159.1	153.3	147.7	142.3	137.1	132.0	127.1
105	167.2	161.3	155.5	149.8	144.4	139.0	133.9	128.9	
110	163.2	157.4	151.8	146.3	141.0	135.8	130.7	125.9	

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	40.0	41.0	44.0	47.4	51.2	55.3	59.8	64.8	70.1
55	40.0	42.1	45.4	49.0	52.9	57.1	61.7	66.8	72.5
60	40.0	43.1	46.3	49.8	53.8	58.3	62.6	67.4	72.6
65	40.3	43.4	46.7	50.3	54.3	58.8	63.1	67.7	73.2
70	40.7	43.8	47.1	50.7	54.8	59.3	63.3	68.2	73.7
75	41.0	44.2	47.5	51.2	55.2	59.9	63.8	69.0	74.4
80	41.4	44.5	47.9	51.6	55.7	60.3	64.7	70.1	75.5
85	42.0	45.2	48.7	52.5	56.8	61.3	66.4	71.8	77.8
90	43.4	46.6	50.2	54.2	58.6	63.3	68.5	74.2	80.4
95	44.9	48.3	52.0	56.1	60.6	65.6	71.0	77.0	83.4
100	46.6	50.1	54.0	58.2	62.9	68.1	73.8	80.0	86.8
105	48.4	52.0	56.0	60.4	65.3	70.7	76.7	83.3	
110	50.2	54.0	58.2	62.7	67.8	73.4	79.7	86.6	

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"										
1000 LBS	40	45	50	55	60	65	70	75	80	85	90
110	3.38	3.78	4.19	4.61	5.03	5.45	5.87	6.28	6.68	7.06	7.44
115	3.69	4.14	4.59	5.05	5.51	5.96	6.42	6.87	7.31	7.75	8.17
120	4.01	4.51	5.01	5.51	6.00	6.50	7.00	7.50	8.00	8.49	8.99
125	4.34	4.89	5.44	5.98	6.53	7.07	7.62	8.18	8.74	9.32	9.91
130	4.69	5.29	5.89	6.48	7.08	7.68	8.29	8.92	9.57	10.25	10.95
135	5.04	5.71	6.36	7.01	7.66	8.33	9.02	9.74	10.50	11.30	12.15
140	5.42	6.14	6.86	7.57	8.29	9.04	9.82	10.65	11.53	12.48	
145	5.81	6.60	7.38	8.17	8.97	9.81	10.70	11.66			
150	6.22	7.09	7.94	8.81	9.71	10.65	11.67				
155	6.66	7.60	8.54	9.50	10.50	11.57					
160	7.12	8.15	9.18	10.24	11.37	12.58					
165	7.61	8.73	9.86	11.04	12.30						
170	8.12	9.34	10.59	11.90							
175	8.67	10.00	11.37								

TABLE 12. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES) JT8D-7 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	173.0	173.0	173.0	173.0	170.7	164.4	158.3	152.5	146.9
55	173.0	173.0	173.0	173.0	167.8	161.5	155.6	150.1	145.3
60	173.0	173.0	173.0	171.9	165.8	159.9	154.6	149.7	145.3
65	173.0	173.0	173.0	171.9	165.8	159.9	154.6	149.7	145.3
70	173.0	173.0	173.0	171.9	165.8	159.9	154.6	149.7	145.3
75	173.0	173.0	173.0	171.9	165.8	159.9	154.6	149.7	145.3
80	173.0	173.0	173.0	171.9	165.8	159.9	154.6	149.2	143.6
85	173.0	173.0	173.0	171.3	165.1	159.1	153.2	147.5	141.8
90	173.0	173.0	173.0	167.7	161.6	155.6	149.9	144.2	138.8
95	173.0	173.0	170.2	164.1	158.0	152.2	146.5	141.0	135.7
100	173.0	172.5	166.4	160.3	154.4	148.7	143.2	137.8	132.6
105	173.0	168.5	162.4	156.5	150.8	145.2	139.8	134.6	
110	170.3	164.4	158.5	152.7	147.1	141.7	136.4	131.3	

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	55.0	56.8	61.9	67.3	73.0	79.2	86.1	93.7	102.1
55	55.2	58.6	63.7	69.2	75.2	81.6	88.6	96.4	105.0
60	55.3	60.0	65.2	70.8	76.9	83.5	90.3	97.7	105.6
65	55.8	60.6	65.8	71.4	77.5	84.3	91.1	98.6	106.6
70	56.3	61.2	66.4	72.0	78.2	85.0	92.0	99.3	107.3
75	56.8	61.7	67.0	72.7	78.9	85.6	92.8	100.2	108.4
80	57.4	62.2	67.5	73.4	79.6	86.4	93.3	101.5	110.3
85	58.1	63.1	68.5	74.3	80.7	87.7	95.4	103.9	113.3
90	60.4	65.5	71.0	77.1	83.7	91.0	99.0	107.9	117.6
95	62.8	68.2	74.0	80.2	87.1	94.7	103.1	112.3	122.5
100	65.5	71.1	77.1	83.7	90.9	98.8	107.5	117.1	127.8
105	68.2	74.1	80.4	87.2	94.8	103.0	112.2	122.2	
110	71.0	77.0	83.6	90.7	98.6	107.3	116.9	127.5	

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120	130
110	5.50	5.50	5.50	5.50	5.71	6.35	6.99	7.62	8.24
115	5.50	5.50	5.50	5.61	6.31	7.01	7.70	8.39	9.07
120	5.50	5.50	5.50	6.16	6.93	7.70	8.46	9.21	9.96
125	5.50	5.50	5.90	6.75	7.59	8.43	9.26	10.09	10.91
130	5.50	5.51	6.43	7.36	8.28	9.19	10.11	11.02	11.92
135	5.50	5.98	6.99	8.00	9.00	10.00	11.01	12.01	13.00
140	5.50	6.48	7.58	8.67	9.76	10.86	11.96	13.05	14.16
145	5.81	7.00	8.19	9.37	10.56	11.76	12.96	14.17	15.39
150	6.26	7.54	8.82	10.11	11.40	12.71	14.02	15.35	
155	6.72	8.10	9.49	10.88	12.29	13.70	15.14		
160	7.20	8.69	10.19	11.69	13.21	14.76			
165	7.71	9.30	10.91	12.54	14.19	15.86			
170	8.23	9.94	11.67	13.42	15.21				
175	8.77	10.61	12.47	14.35					

TABLE 13. AIRCRAFT PERFORMANCE, LANDING (BOEING 727-200 SERIES) JT8D-9 ENGINE, 40°

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	142.5	142.5	142.5	142.5	142.5	142.5	142.5	138.3	133.2
55	142.5	142.5	142.5	142.5	142.5	142.5	141.4	136.1	131.0
60	142.5	142.5	142.5	142.5	142.5	142.5	139.6	134.3	129.3
65	142.5	142.5	142.5	142.5	142.5	142.5	139.6	134.3	129.3
70	142.5	142.5	142.5	142.5	142.5	142.5	139.6	134.3	129.3
75	142.5	142.5	142.5	142.5	142.5	142.5	139.6	134.3	129.3
80	142.5	142.5	142.5	142.5	142.5	142.5	139.6	134.3	129.3
85	142.5	142.5	142.5	142.5	142.5	142.5	138.7	133.5	128.7
90	142.5	142.5	142.5	142.5	142.5	141.0	135.7	130.6	125.8
95	142.5	142.5	142.5	142.5	142.5	137.9	132.7	127.7	122.9
100	142.5	142.5	142.5	142.5	139.9	134.7	129.7	124.8	120.0
105	142.5	142.5	142.5	141.8	136.6	131.5	126.6	121.8	117.1
110	142.5	142.5	142.5	138.3	133.3	128.3	123.5	118.8	114.3

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
110	4.01	4.09	4.17	4.26	4.36	4.46	4.56	4.66	4.75
115	4.15	4.23	4.31	4.40	4.50	4.60	4.70	4.81	4.92
120	4.29	4.38	4.47	4.56	4.66	4.76	4.87	4.98	5.10
125	4.43	4.54	4.64	4.73	4.83	4.94	5.05	5.17	5.30
130	4.59	4.70	4.81	4.91	5.02	5.13	5.24	5.37	5.51
135	4.74	4.86	4.98	5.09	5.20	5.32	5.44	5.57	5.72
140	4.91	5.03	5.14	5.26	5.38	5.50	5.63	5.77	5.92
145	5.08	5.19	5.30	5.42	5.55	5.68	5.82	5.96	6.11
150	5.25	5.34	5.44	5.56	5.69	5.83	5.98	6.14	6.30

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	ADVANCED OPTION
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL	LBS.	114,800
AVERAGE FUEL CONSUMPTION	LBS./MILE	19
TYPICAL MAXIMUM PASSENGER LOAD @200 LBS./PASSENGER	LBS.	26,800
MAXIMUM STRUCTURAL PAYLOAD	LBS.	40,300

TABLE 14. AIRCRAFT PERFORMANCE, LANDING (BOEING 727-200 SERIES)
JT8D-9 ENGINE, 30° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0
55	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0
60	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	147.5
65	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	147.5
70	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	147.5
75	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	147.5
80	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	147.5
85	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	146.8
90	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	143.6
95	148.0	148.0	148.0	148.0	148.0	148.0	148.0	145.8	140.3
100	148.0	148.0	148.0	148.0	148.0	148.0	147.9	142.4	136.9
105	148.0	148.0	148.0	148.0	148.0	148.0	144.4	138.9	133.4
110	148.0	148.0	148.0	148.0	148.0	146.3	140.8	135.3	130.0

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
110	4.43	4.52	4.62	4.72	4.82	4.93	5.04	5.15	5.27
115	4.58	4.67	4.78	4.88	4.99	5.10	5.21	5.33	5.46
120	4.73	4.83	4.94	5.05	5.16	5.28	5.40	5.52	5.66
125	4.88	4.99	5.10	5.22	5.33	5.46	5.59	5.72	5.86
130	5.04	5.15	5.27	5.39	5.52	5.64	5.78	5.92	6.06
135	5.20	5.32	5.44	5.57	5.70	5.83	5.97	6.12	6.27
140	5.37	5.49	5.62	5.75	5.88	6.02	6.17	6.32	6.47
145	5.53	5.66	5.79	5.93	6.07	6.21	6.36	6.52	6.67
150	5.70	5.83	5.97	6.11	6.25	6.40	6.56	6.71	6.86

TABLE 15. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES) JT8D-9 ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	170.6	169.6	163.3	157.3	151.5	145.9	140.5	135.3	130.1
55	170.6	166.6	160.6	154.8	149.1	143.7	138.4	133.3	128.2
60	170.6	164.4	158.4	152.7	147.2	142.0	136.9	131.8	126.7
65	170.6	164.4	158.4	152.7	147.2	142.0	136.9	131.8	126.7
70	170.6	164.4	158.4	152.7	147.2	142.0	136.9	131.8	126.7
75	170.6	164.4	158.4	152.7	147.2	142.0	136.9	131.8	126.7
80	170.6	164.4	158.4	152.7	147.2	142.0	136.9	131.8	126.7
85	170.0	163.8	157.8	152.1	146.7	141.4	136.2	131.2	126.2
90	166.4	160.3	154.5	148.9	143.5	138.3	133.3	128.3	123.4
95	162.8	156.8	151.2	145.7	140.4	135.3	130.3	125.4	120.7
100	159.1	153.4	147.8	142.5	137.3	132.2	127.4	122.6	118.0
105	155.5	149.9	144.5	139.2	134.1	129.2	124.4	119.8	115.4
110	151.9	146.4	141.1	136.0	131.0	126.2	121.6	117.1	

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	35.0	35.2	37.7	40.6	43.9	47.5	51.6	56.1	61.2
55	35.0	35.9	38.6	41.6	44.9	48.6	52.7	57.4	62.7
60	35.0	36.7	39.6	42.7	46.1	49.9	54.2	59.0	64.4
65	35.0	37.0	39.9	43.0	46.5	50.4	54.7	59.6	65.0
70	35.0	37.4	40.2	43.4	46.9	50.9	55.3	60.2	65.6
75	35.1	37.7	40.6	43.8	47.3	51.3	55.8	60.7	66.2
80	35.5	38.0	40.9	44.1	47.7	51.8	56.3	61.3	66.8
85	36.0	38.5	41.4	44.7	48.4	52.6	57.2	62.2	67.7
90	37.1	39.7	42.8	46.3	50.2	54.6	59.4	64.6	70.4
95	38.3	41.1	44.3	48.0	52.0	56.6	61.6	67.0	73.0
100	39.6	42.6	45.9	49.7	54.0	58.7	63.9	69.5	75.6
105	41.0	44.1	47.6	51.6	56.0	60.9	66.2	72.1	78.4
110	42.3	45.7	49.4	53.6	58.2	63.2	68.8	74.7	

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 35	40	45	50	55	60	65	70	75	80
110	3.50	3.50	3.77	4.16	4.55	4.95	5.36	5.77	6.20	6.63
115	3.50	3.68	4.13	4.57	5.01	5.46	5.91	6.36	6.82	7.28
120	3.50	4.00	4.51	5.01	5.50	6.00	6.50	7.00	7.50	8.02
125	3.76	4.35	4.91	5.47	6.02	6.57	7.12	7.67	8.23	8.81
130	4.06	4.71	5.35	5.96	6.57	7.16	7.76	8.37	8.99	
135	4.37	5.11	5.81	6.48	7.13	7.77	8.42	9.07		
140	4.70	5.53	6.29	7.02	7.71	8.39	9.07			
145	5.05	5.97	6.81	7.58	8.31	9.01				
150	5.43	6.44	7.34	8.15	8.91					
155	5.82	6.93	7.90	8.75						
160	6.23	7.45	8.48							
165	6.67	7.99	9.08							
170	7.12	8.56								
175	7.60	9.15								
180	8.09									

TABLE 16. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES) JT8D-9 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	181.4	190.0	183.6	176.9	170.3	164.0	157.9	152.0	146.3
55	190.0	187.7	180.6	174.1	167.7	161.6	155.6	149.8	144.2
60	190.0	185.5	178.6	172.0	165.8	159.7	153.9	148.2	142.7
65	190.0	185.5	178.6	172.0	165.8	159.7	153.9	148.2	142.7
70	190.0	185.5	178.6	172.0	165.8	159.7	153.9	148.2	142.7
75	190.0	185.5	178.6	172.0	165.8	159.7	153.9	148.2	142.7
80	190.0	185.5	178.6	172.0	165.8	159.7	153.9	148.2	142.7
85	190.0	184.7	177.8	171.3	165.0	159.0	153.2	147.5	142.0
90	187.4	180.6	174.0	167.7	161.6	155.6	149.9	144.3	138.7
95	183.0	176.5	170.2	164.0	158.0	152.2	146.6	141.1	135.7
100	178.8	172.4	166.3	160.3	154.4	148.8	143.2	137.9	132.8
105	174.6	168.4	162.4	156.5	150.8	145.3	139.9	134.7	129.8
110	170.5	164.4	158.5	152.7	147.1	141.7	136.5	131.5	

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	41.1	42.7	45.9	49.5	53.4	57.7	62.4	67.5	73.0
55	41.5	43.8	47.2	50.9	54.9	59.3	64.1	69.3	75.0
60	41.8	44.9	48.4	52.1	56.3	60.8	65.8	71.1	76.9
65	42.1	45.3	48.8	52.6	56.8	61.3	66.3	71.7	77.6
70	42.5	45.6	49.1	53.0	57.2	61.8	66.8	72.3	78.2
75	42.8	46.0	49.5	53.4	57.7	62.3	67.4	72.9	78.9
80	43.1	46.4	49.9	53.8	58.1	62.8	67.9	73.5	79.6
85	43.7	47.1	50.7	54.6	58.9	63.7	68.8	74.5	80.7
90	45.2	48.6	52.3	56.4	60.9	65.8	71.2	77.1	83.5
95	46.7	50.2	54.1	58.3	63.0	68.1	73.7	79.8	86.4
100	48.2	51.9	55.9	60.4	65.2	70.5	76.3	82.6	89.6
105	49.9	53.8	58.0	62.5	67.6	73.1	79.1	85.7	93.0
110	51.8	55.8	60.1	64.9	70.1	75.8	82.1	89.1	

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 40	45	50	55	60	65	70	75	80	85	90	95
110	4.00	4.00	4.00	4.24	4.62	5.00	5.38	5.75	6.12	6.48	6.84	7.19
115	4.00	4.00	4.22	4.65	5.07	5.48	5.89	6.30	6.71	7.11	7.51	7.90
120	4.00	4.14	4.61	5.07	5.52	5.98	6.43	6.88	7.33	7.78	8.23	8.67
125	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.01	9.52
130	4.33	4.87	5.42	5.96	6.50	7.05	7.60	8.15	8.71	9.28	9.86	10.45
135	4.67	5.26	5.85	6.44	7.03	7.63	8.23	8.85	9.48	10.13	10.80	11.49
140	5.02	5.66	6.30	6.94	7.59	8.25	8.92	9.61	10.32	11.06	11.83	12.64
145	5.39	6.09	6.78	7.48	8.19	8.91	9.66	10.43	11.24	12.08		
150	5.77	6.53	7.28	8.05	8.82	9.63	10.46	11.33	12.24			
155	6.17	6.99	7.81	8.65	9.50	10.39	11.32	12.30				
160	6.57	7.47	8.37	9.29	10.23	11.22	12.26					
165	7.00	7.98	8.96	9.97	11.02	12.11						
170	7.44	8.51	9.59	10.70	11.86							
175	7.89	9.06	10.25	11.47								
180	8.37	9.64	10.95	12.30								
185	8.85	10.25	11.69									
190	9.36	10.90	12.47									

TABLE 17. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES)
JT8D-9 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	190.0	190.0	190.0	184.6	178.0	171.4	165.0	158.9	153.0
55	190.0	190.0	188.7	182.0	175.3	168.7	162.4	156.4	150.6
60	190.0	190.0	186.6	179.8	173.1	166.6	160.4	154.4	148.7
65	190.0	190.0	186.6	179.8	173.1	166.6	160.4	154.4	148.7
70	190.0	190.0	186.6	179.8	173.1	166.6	160.4	154.4	148.7
75	190.0	190.0	186.6	179.8	173.1	166.6	160.4	154.4	148.7
80	190.0	190.0	186.6	179.8	173.1	166.6	160.4	154.4	148.7
85	190.0	190.0	185.7	178.8	172.3	165.9	159.8	153.8	148.1
90	190.0	188.5	181.5	174.8	168.4	162.2	156.3	150.6	145.1
95	190.0	184.2	177.4	170.9	164.6	158.6	152.8	147.2	141.8
100	186.5	179.8	173.3	167.0	160.9	155.1	149.3	143.8	
105	182.0	175.6	169.3	163.2	157.3	151.6	146.0	140.5	
110	177.8	171.5	165.4	159.4	153.7	148.1	142.6	137.4	

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	60.7	63.4	68.8	74.7	81.1	88.1	95.8	104.3	113.5
55	61.3	65.2	70.7	76.8	83.4	90.6	98.5	107.2	116.7
60	61.9	67.0	72.6	78.7	85.5	92.9	101.1	110.1	120.0
65	62.4	67.6	73.2	79.4	86.3	93.8	102.0	111.1	121.0
70	63.0	68.2	73.9	80.2	87.0	94.6	102.9	112.1	122.1
75	63.6	68.8	74.6	80.9	87.8	95.4	103.8	113.1	123.2
80	64.1	69.5	75.3	81.6	88.6	96.3	104.7	114.0	124.2
85	64.9	70.3	76.1	82.6	89.7	97.5	106.1	115.5	125.9
90	67.2	72.7	78.7	85.4	92.8	100.9	109.8	119.6	130.2
95	69.8	75.4	81.7	88.6	96.3	104.7	113.9	124.0	134.9
100	72.5	78.4	85.0	92.2	100.1	108.8	118.4	128.8	
105	75.4	81.6	88.4	95.9	104.2	113.2	123.2	134.1	
110	78.3	84.8	91.8	99.6	108.3	117.8	128.4	140.0	

RUNWAY LENGTH (1000 FEET)

WEIGHT .000 LBS	REFERENCE FACTOR "R" 60	70	80	90	100	110	120	130	140
110	5.50	5.50	5.50	5.50	5.50	5.95	6.50	7.03	7.53
115	5.50	5.50	5.50	5.50	5.97	6.59	7.18	7.76	8.31
120	5.50	5.50	5.50	5.91	6.58	7.24	7.90	8.53	9.14
125	5.50	5.50	5.75	6.48	7.21	7.93	8.64	9.33	10.01
130	5.50	5.50	6.28	7.07	7.86	8.65	9.42	10.18	10.93
135	5.50	5.98	6.83	7.69	8.54	9.39	10.24	11.08	11.91
140	5.55	6.48	7.41	8.33	9.26	10.18	11.10	12.02	12.93
145	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.01	14.02
150	6.47	7.55	8.62	9.70	10.78	11.86	12.95	14.05	15.16
155	6.95	8.11	9.27	10.43	11.60	12.77	13.95	15.15	
160	7.45	8.70	9.95	11.20	12.45	13.72	15.01		
165	7.97	9.32	10.66	12.00	13.36	14.73			
170	8.51	9.95	11.40	12.84	14.30	15.78			
175	9.07	10.62	12.17	13.73	15.30				
180	9.65	11.31	12.97	14.65					
185	10.24	12.03	13.82	15.62					
190	10.85	12.77	14.70						

TABLE 18. AIRCRAFT PERFORMANCE, LANDING (BOEING 727-200 SERIES) JT8D-15 ENGINE, 40° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
55	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
60	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
65	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
70	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
75	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
80	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5
85	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	141.6
90	142.5	142.5	142.5	142.5	142.5	142.5	142.5	142.5	139.3
95	142.5	142.5	142.5	142.5	142.5	142.5	142.5	141.7	136.6
100	142.5	142.5	142.5	142.5	142.5	142.5	142.5	138.5	133.5
105	142.5	142.5	142.5	142.5	142.5	142.5	140.2	134.9	129.9
110	142.5	142.5	142.5	142.5	142.5	141.3	136.1	130.9	126.0

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
110	4.00	4.10	4.19	4.27	4.35	4.44	4.53	4.64	4.77
115	4.15	4.24	4.33	4.42	4.51	4.61	4.71	4.82	4.95
120	4.30	4.39	4.49	4.58	4.68	4.78	4.88	5.00	5.13
125	4.45	4.55	4.64	4.74	4.85	4.95	5.07	5.19	5.32
130	4.61	4.71	4.81	4.91	5.02	5.13	5.25	5.38	5.51
135	4.76	4.87	4.98	5.09	5.20	5.32	5.44	5.57	5.70
140	4.92	5.04	5.15	5.27	5.39	5.51	5.64	5.76	5.90
145	5.03	5.21	5.33	5.46	5.58	5.71	5.83	5.96	6.10

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	ADVANCED OPTIONS		
MAXIMUM TAKEOFF WEIGHT	LBS.	181,500	190,500	197,000
MAXIMUM LANDING WEIGHT				
. FLAPS 30°	LBS.	154,500	160,000	160,000
FLAPS 40°	LBS.	142,500	142,500	142,500
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL	LBS.	109,211 116,141	109,753 116,683	112,835 1/ 119,765 2/
AVERAGE FUEL CONSUMPTION	LBS./MILE	22	22	22
TYPICAL MAXIMUM PASSENGER LOAD AT 200 LBS./PASSENGER	LBS.	32,400	35,000	37,800
MAXIMUM STRUCTURAL PAYLOAD	LBS.	40,339	41,797	42,715

1/ Based on 1.25 hours of reserve fuel.
2/ Based on 2.00 hours of reserve fuel.

TABLE 19. AIRCRAFT PERFORMANCE, LANDING (BOEING 727-200 SERIES)
JT8D-15 ENGINE, 30° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0
55	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0
60	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0
65	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0
70	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0
75	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0
80	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0
85	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0
90	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	158.6
95	160.0	160.0	160.0	160.0	160.0	160.0	160.0	160.0	155.5
100	160.0	160.0	160.0	160.0	160.0	160.0	160.0	157.9	151.9
105	160.0	160.0	160.0	160.0	160.0	160.0	159.7	153.7	147.9
110	160.0	160.0	160.0	160.0	160.0	160.0	154.0	149.1	143.5

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
110	4.14	4.20	4.27	4.34	4.42	4.51	4.60	4.70	4.80
115	4.24	4.31	4.38	4.46	4.54	4.64	4.73	4.83	4.93
120	4.35	4.42	4.50	4.58	4.67	4.77	4.86	4.96	5.06
125	4.46	4.54	4.63	4.71	4.81	4.90	5.00	5.10	5.21
130	4.58	4.67	4.76	4.85	4.95	5.05	5.15	5.25	5.36
135	4.71	4.80	4.90	4.99	5.09	5.19	5.30	5.41	5.52
140	4.84	4.94	5.04	5.14	5.25	5.35	5.46	5.57	5.69
145	4.97	5.09	5.20	5.30	5.40	5.51	5.62	5.74	5.87
150	5.12	5.24	5.36	5.46	5.57	5.68	5.79	5.91	6.05
155	5.26	5.40	5.52	5.63	5.74	5.85	5.96	6.09	6.25
160	5.42	5.57	5.70	5.81	5.92	6.03	6.15	6.28	6.45

TABLE 20. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES) JT8D-15 ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	190.0	183.5	177.5	170.4	164.5	158.6	152.7	147.0	141.5
55	184.5	181.0	177.5	170.4	164.5	158.6	152.7	147.0	141.5
60	184.5	181.0	177.5	170.4	164.5	158.6	152.7	147.0	141.5
65	184.5	181.0	177.5	170.4	164.5	158.6	152.7	147.0	141.5
70	184.5	181.0	176.0	170.4	164.5	158.6	152.7	147.0	141.5
75	184.5	181.0	176.0	170.4	164.5	158.6	152.7	147.0	141.5
80	184.5	180.0	172.9	166.4	160.5	154.9	149.5	144.1	138.5
85	183.6	176.3	169.5	163.3	157.5	151.9	146.5	141.2	135.8
90	179.4	172.5	166.2	160.1	154.4	148.9	143.5	138.3	133.0
95	175.3	168.9	162.8	156.9	151.3	145.8	140.6	135.4	130.3
100	171.5	165.3	159.4	153.7	148.1	142.8	137.6	132.5	127.5
105	167.9	161.8	156.0	150.4	145.0	139.7	134.6	129.7	124.7
110	164.5	158.4	152.5	147.0	141.8	136.7	131.7	126.8	122.0

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	53.6	56.2	59.5	64.1	69.6	75.9	82.6	89.6	96.8
55	53.7	56.2	59.8	64.4	69.8	75.9	82.7	89.7	97.0
60	53.8	56.5	60.3	64.9	70.3	76.3	82.9	90.0	97.6
65	54.1	57.1	61.1	65.7	71.0	77.0	83.6	90.8	98.7
70	54.2	57.8	62.0	66.8	72.1	78.1	84.7	92.1	100.3
75	54.8	58.8	63.2	68.1	73.5	79.6	86.3	93.8	102.3
80	55.8	60.1	64.7	69.7	75.2	81.4	88.3	96.0	104.7
85	57.0	61.5	66.3	71.5	77.2	83.6	90.7	98.7	107.6
90	58.5	63.2	68.2	73.6	79.5	86.1	93.5	101.7	111.0
95	60.3	65.1	70.3	75.9	82.1	89.0	96.7	105.3	114.8
100	62.4	67.3	72.6	78.5	85.1	92.3	100.4	109.2	119.1
105	64.8	69.7	75.2	81.4	88.3	96.0	104.4	113.7	123.8
110	67.5	72.3	78.0	84.5	91.8	100.0	108.9	118.6	129.0

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 55	65	75	85	95	105	115	125	135
130	3.61	4.31	4.95	5.55	6.13	6.69	7.25	7.82	8.40
135	3.90	4.62	5.31	5.97	6.60	7.23	7.86	8.49	9.15
140	4.19	4.96	5.70	6.41	7.11	7.81	8.50	9.21	9.94
145	4.50	5.32	6.11	6.89	7.66	8.42	9.19	9.97	10.77
150	4.82	5.69	6.55	7.40	8.24	9.07	9.92	10.77	11.64
155	5.15	6.09	7.01	7.93	8.85	9.77	10.69	11.61	12.55
160	5.49	6.50	7.50	8.50	9.50	10.50	11.49	12.49	
165	5.85	6.93	8.01	9.10	10.18	11.27	12.35		
170	6.22	7.38	8.55	9.73	10.90	12.08	13.24		
175	6.60	7.85	9.12	10.39	11.66	12.92			
180	6.99	8.34	9.70	11.08	12.45				
185	7.40	8.84	10.31	11.80	13.28				
190	7.82	9.37	10.95	12.55					
195	8.25	9.91	11.61	13.33					

TABLE 21. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES)
JT8D-15 ENGINE, 20° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	197.0	196.0	190.0	182.0	176.0	170.1	164.0	157.9	151.5
55	197.0	193.5	190.0	182.0	176.0	170.1	164.0	157.9	151.5
60	197.0	193.5	190.0	182.0	176.0	170.1	164.0	157.9	151.5
65	197.0	193.5	190.0	182.0	176.0	170.1	164.0	157.9	151.5
70	197.0	193.5	188.1	182.0	176.0	170.1	164.0	157.9	151.5
75	197.0	193.5	188.1	182.0	176.0	170.1	164.0	157.9	151.5
80	197.0	192.3	184.8	178.0	171.7	165.7	159.9	154.1	148.1
85	196.1	188.4	181.3	174.7	168.5	162.5	156.8	151.0	145.2
90	191.7	184.5	177.8	171.4	165.2	159.3	153.6	147.9	142.3
95	187.5	180.7	174.2	168.0	161.9	156.0	150.4	144.8	139.5
100	183.5	177.0	170.6	164.5	158.5	152.7	147.1	141.8	136.6
105	179.7	173.3	167.0	160.9	155.0	149.3	143.8	138.7	133.8
110	176.0	169.6	163.4	157.3	151.4	145.8	140.5	135.6	131.0

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	55.4	58.3	62.2	67.0	72.7	79.0	85.8	93.0	100.4
55	55.5	58.4	62.4	67.3	72.8	79.1	85.9	93.1	100.5
60	55.6	58.8	62.9	67.7	73.2	79.4	86.1	93.4	101.1
65	55.7	59.4	63.6	68.5	74.0	80.1	86.8	94.2	102.2
70	56.2	60.2	64.6	69.6	75.1	81.2	88.0	95.5	103.8
75	57.0	61.2	65.8	70.9	76.5	82.7	89.6	97.3	105.9
80	58.1	62.5	67.3	72.5	78.2	84.6	91.7	99.6	108.4
85	59.4	64.1	69.0	74.4	80.3	86.8	94.1	102.3	111.5
90	61.0	65.8	71.0	76.6	82.7	89.5	97.0	105.5	115.0
95	62.9	67.8	73.2	79.0	85.4	92.5	100.4	109.2	119.0
100	65.0	70.1	75.6	81.7	88.4	95.9	104.2	113.3	123.5
105	67.4	72.6	78.3	84.7	91.8	99.7	108.4	118.0	128.5
110	70.0	75.3	81.3	88.0	95.5	103.9	113.0	123.1	134.0

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 55	65	75	85	95	105	115	125	135
130	3.71	4.39	5.02	5.62	6.20	6.75	7.30	7.85	8.41
135	3.97	4.69	5.37	6.02	6.66	7.28	7.89	8.50	9.12
140	4.25	5.01	5.74	6.46	7.16	7.85	8.53	9.20	9.89
145	4.54	5.35	6.14	6.92	7.69	8.45	9.20	9.95	10.71
150	4.84	5.71	6.57	7.42	8.26	9.09	9.92	10.75	11.58
155	5.16	6.10	7.02	7.94	8.86	9.78	10.69	11.60	12.51
160	5.50	6.50	7.50	8.50	9.50	10.50	11.50	12.50	13.49
165	5.84	6.92	8.00	9.09	10.17	11.26	12.35	13.44	
170	6.20	7.36	8.53	9.70	10.88	12.06	13.25		
175	6.58	7.83	9.09	10.35	11.63	12.90			
180	6.97	8.31	9.67	11.03	12.40	13.79			
185	7.37	8.81	10.27	11.74	13.22				
190	7.78	9.34	10.90	12.48					
195	8.21	9.88	11.56	13.25					

TABLE 22. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES) JT8D-15 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	197.0	197.0	197.0	193.4	186.9	180.2	173.5	166.9	160.5
55	197.0	197.0	197.0	193.4	186.9	180.2	173.5	166.9	160.5
60	197.0	197.0	197.0	193.4	186.9	180.2	173.5	166.9	160.5
65	197.0	197.0	197.0	193.4	186.9	180.2	173.5	166.9	160.5
70	197.0	197.0	197.0	193.4	186.9	180.2	173.5	166.9	160.5
75	197.0	197.0	197.0	193.4	186.9	180.2	173.5	166.9	160.5
80	197.0	197.0	196.2	189.0	182.2	175.8	169.5	163.4	157.2
85	197.0	197.0	192.5	185.5	178.8	172.4	166.2	160.1	154.1
90	197.0	195.8	188.7	181.9	175.4	169.0	162.9	156.8	150.9
95	197.0	191.7	184.9	178.2	171.8	165.5	159.5	153.5	147.7
100	194.5	187.7	181.0	174.5	168.2	162.0	156.0	150.2	144.5
105	190.4	183.7	177.1	170.7	164.5	158.4	152.5	146.8	141.3
110	186.5	179.7	173.1	166.8	160.7	154.8	149.0	143.4	138.0

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	58.6	61.6	65.7	70.7	76.5	83.0	90.2	97.9	106.2
55	58.4	61.7	65.9	70.8	76.6	83.0	90.2	98.0	106.3
60	58.4	62.0	66.3	71.3	77.0	83.4	90.5	98.4	106.9
65	58.8	62.6	67.1	72.1	77.8	84.2	91.4	99.3	108.0
70	59.4	63.5	68.1	73.2	78.9	85.4	92.6	100.6	109.6
75	60.3	64.6	69.3	74.6	80.4	87.0	94.3	102.5	111.7
80	61.4	65.9	70.8	76.2	82.2	88.9	96.4	104.9	114.3
85	62.8	67.5	72.6	78.2	84.4	91.3	99.0	107.7	117.4
90	64.5	69.4	74.7	80.5	86.9	94.0	102.0	111.0	121.0
95	66.5	71.5	77.0	83.0	89.7	97.2	105.5	114.8	125.1
100	68.7	73.9	79.6	85.9	92.9	100.7	109.4	119.0	129.7
105	71.2	76.5	82.4	89.0	96.4	104.6	113.7	123.8	134.9
110	74.0	79.4	85.5	92.5	100.3	109.0	118.5	129.0	140.5

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"								
1000 LBS	58	68	78	88	98	108	118	128	138
130	3.96	4.55	5.20	5.90	6.61	7.28	7.88	8.39	8.75
135	4.23	4.89	5.59	6.30	7.00	7.66	8.28	8.82	9.27
140	4.51	5.25	5.99	6.73	7.44	8.13	8.78	9.39	9.94
145	4.81	5.63	6.42	7.19	7.94	8.67	9.38	10.08	10.76
150	5.13	6.02	6.87	7.69	8.49	9.29	10.09	10.90	11.74
155	5.46	6.44	7.35	8.23	9.10	9.98	10.89	11.85	12.88
160	5.82	6.86	7.85	8.81	9.77	10.76	11.80	12.93	14.17
165	6.18	7.31	8.38	9.42	10.49	11.61	12.81	14.13	
170	6.57	7.77	8.92	10.08	11.26	12.53	13.92		
175	6.97	8.25	9.49	10.76	12.10	13.54			
180	7.39	8.74	10.09	11.49	12.98				
185	7.83	9.25	10.71	12.25	13.92				
190	8.28	9.78	11.35	13.05					
195	8.75	10.32	12.02	13.88					

TABLE 23. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES) JT8D-15 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	197.0	197.0	197.0	197.0	193.9	187.0	180.2	173.5	167.0
55	197.0	197.0	197.0	197.0	193.9	187.0	180.2	173.5	167.0
60	197.0	197.0	197.0	197.0	193.9	187.0	180.2	173.5	167.0
65	197.0	197.0	197.0	197.0	193.9	187.0	180.2	173.5	167.0
70	197.0	197.0	197.0	197.0	193.9	187.0	180.2	173.5	167.0
75	197.0	197.0	197.0	197.0	193.9	187.0	180.2	173.5	167.0
80	197.0	197.0	197.0	196.3	189.4	182.8	176.3	169.8	163.0
85	197.0	197.0	197.0	192.6	185.8	179.2	172.7	166.3	159.8
90	197.0	197.0	195.9	188.8	182.1	175.6	169.2	162.8	156.5
95	197.0	197.0	191.9	185.1	178.4	171.9	165.6	159.4	153.3
100	197.0	194.9	188.0	181.2	174.7	168.3	162.0	156.0	150.0
105	197.0	190.8	184.0	177.4	170.9	164.6	158.5	152.5	146.7
110	193.5	186.6	180.0	173.5	167.1	161.0	155.0	149.1	143.5

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	65.9	69.4	74.1	80.1	87.1	94.8	103.2	112.1	121.1
55	66.0	69.6	74.5	80.4	87.2	94.9	103.3	112.2	121.6
60	66.2	70.1	75.1	81.0	87.7	95.2	103.6	112.7	122.7
65	66.4	70.9	76.1	81.9	88.6	96.1	104.5	113.9	124.3
70	67.1	71.9	77.3	83.2	89.9	97.4	105.9	115.5	126.4
75	68.1	73.3	78.8	84.8	91.6	99.2	107.9	117.8	129.0
80	69.4	74.8	80.6	86.8	93.7	101.5	110.4	120.5	132.2
85	71.0	76.7	82.6	89.1	96.2	104.3	113.4	123.9	135.8
90	73.0	78.8	85.0	91.7	99.1	107.5	117.0	127.7	140.0
95	75.3	81.2	87.6	94.7	102.5	111.2	121.0	132.2	144.7
100	77.9	83.9	90.6	97.9	106.2	115.4	125.7	137.1	150.0
105	80.8	86.9	93.8	101.6	110.3	120.0	130.8	142.7	155.7
110	84.0	90.1	97.3	105.5	114.8	125.1	136.5	148.8	162.0

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"								
1000 LBS	70	80	90	100	110	120	130	140	150
130	4.67	5.32	5.95	6.56	7.15	7.73	8.30	8.85	9.40
135	5.01	5.70	6.37	7.03	7.67	8.31	8.93	9.56	10.18
140	5.37	6.11	6.83	7.54	8.25	8.94	9.63	10.32	11.02
145	5.75	6.54	7.32	8.10	8.86	9.63	10.39	11.15	11.92
150	6.14	7.00	7.85	8.69	9.53	10.36	11.20	12.04	12.83
155	6.56	7.49	8.41	9.33	10.24	11.16	12.07	12.99	13.91
160	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	
165	7.45	8.53	9.62	10.71	11.81	12.90	13.99		
170	7.93	9.10	10.28	11.47	12.66	13.86			
175	8.42	9.69	10.97	12.27	13.57				
180	8.93	10.30	11.69	13.10					
185	9.46	10.94	12.45	13.98					
190	10.01	11.61	13.24						
195	10.58	12.30	14.06						

TABLE 24. AIRCRAFT PERFORMANCE, LANDING (BOEING 737-200 SERIES)
JT8D-9 ENGINE, 40° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	103.0	103.0	100.8	97.2	93.7	90.2	86.9	83.6	80.4
55	103.0	102.9	99.2	95.6	92.1	88.8	85.5	82.3	79.3
60	103.0	101.5	97.9	94.3	90.9	87.6	84.4	81.3	78.2
65	103.0	101.5	97.9	94.3	90.9	87.6	84.4	81.3	78.2
70	103.0	101.5	97.9	94.3	90.9	87.6	84.4	81.3	78.2
75	103.0	101.5	97.9	94.3	90.9	87.6	84.4	81.3	78.2
80	103.0	101.5	97.9	94.3	90.9	87.6	84.4	81.3	78.2
85	103.0	101.1	97.5	94.0	90.6	87.3	84.1	81.0	77.9
90	102.8	99.1	95.5	92.0	88.6	85.4	82.2	79.2	76.3
95	100.5	97.0	93.5	90.0	86.7	83.5	80.4	77.4	74.5
100	98.2	94.7	91.3	88.0	84.8	81.6	78.5	75.6	72.7
105	95.9	92.5	89.1	85.9	82.8	79.7	76.7	73.8	70.9
110	93.6	90.2	86.9	83.7	80.7	77.7	74.9	72.0	

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
70	3.92	4.02	4.11	4.20	4.30	4.40	4.50	4.61	4.72
75	4.15	4.24	4.34	4.44	4.54	4.64	4.75	4.86	4.98
80	4.37	4.46	4.56	4.67	4.78	4.89	5.00	5.13	5.25
85	4.58	4.69	4.79	4.90	5.02	5.14	5.26	5.39	5.52
90	4.80	4.91	5.02	5.13	5.26	5.38	5.51	5.65	5.79
95	5.01	5.13	5.25	5.37	5.50	5.63	5.77	5.91	6.06
100	5.23	5.35	5.47	5.60	5.74	5.88	6.02	6.17	6.33
105	5.44	5.57	5.70	5.84	5.98	6.12	6.27	6.43	6.60

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	-200	-200	-200C PASSENGER	-200C CARGO
MAXIMUM TAKEOFF WEIGHT	LBS.	109,000	115,500	115,500	115,500
MAXIMUM LANDING WEIGHT	LBS.	98,000	103,000	103,000	103,000
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL	LBS.	66,620[1]/ 71,040[2]/	67,530[1]/ 71,950[2]/	70,430[1]/ 74,850[2]/	66,960[1]/ 71,370[2]/
AVERAGE FUEL CONSUMPTION	LBS./MILE	16	16	16	16
TYPICAL MAXIMUM PASSENGER LOAD @ 200 LBS./PASSENGER	LBS.	26,000	26,000	26,000	0
MAXIMUM STRUCTURAL PAYLOAD	LBS.	28,740	34,830	31,930	35,400

1/ Based on 1.25 hours of reserve fuel.
2/ Based on 2.00 hours of reserve fuel.

TABLE 25. AIRCRAFT PERFORMANCE, LANDING (BOEING 737-200 SERIES)
JT8D-9 ENGINE, 30° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	103.0	103.0	103.0	102.4	98.6	95.0	91.5	88.1	84.9
55	103.0	103.0	103.0	100.8	97.2	93.7	90.3	87.0	83.7
60	103.0	103.0	103.0	99.6	95.9	92.4	89.0	85.7	82.7
65	103.0	103.0	103.0	99.6	95.9	92.4	89.0	85.7	82.7
70	103.0	103.0	103.0	99.6	95.9	92.4	89.0	85.7	82.7
75	103.0	103.0	103.0	99.6	95.9	92.4	89.0	85.7	82.7
80	103.0	103.0	103.0	99.6	95.9	92.4	89.0	85.7	82.7
85	103.0	103.0	102.9	99.2	95.5	92.0	88.6	85.4	82.3
90	103.0	103.0	100.8	97.1	93.6	90.1	86.8	83.5	80.3
95	103.0	102.1	98.5	94.9	91.5	88.1	84.8	81.6	78.5
100	103.0	99.8	96.2	92.7	89.3	86.1	82.9	79.8	76.8
105	101.0	97.4	93.9	90.5	87.2	84.0	80.9	77.9	75.0
110	98.7	95.1	91.7	88.4	85.1	82.0	79.0	76.0	73.2

RUNWAY LENGTH (1000 FEET)

WEIGHT	AIRPORT ELEVATION (FEET)								
1000 LBS	0	1000	2000	3000	4000	5000	6000	7000	8000
70	4.23	4.33	4.44	4.54	4.65	4.76	4.87	4.98	5.09
75	4.47	4.57	4.68	4.79	4.90	5.02	5.14	5.26	5.38
80	4.70	4.81	4.93	5.04	5.16	5.28	5.41	5.54	5.67
85	4.94	5.06	5.18	5.30	5.42	5.55	5.68	5.82	5.96
90	5.18	5.30	5.43	5.55	5.69	5.82	5.96	6.10	6.25
95	5.41	5.54	5.68	5.81	5.95	6.09	6.24	6.39	6.54
100	5.65	5.79	5.92	6.07	6.21	6.36	6.52	6.67	6.84
105	5.89	6.03	6.17	6.32	6.48	6.63	6.80	6.96	7.13

TABLE 26. AIRCRAFT PERFORMANCE, LANDING (BOEING 737-200 SERIES) JT8D-9 ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0	99.4
55	103.0	103.0	103.0	103.0	103.0	103.0	103.0	101.7	97.8
60	103.0	103.0	103.0	103.0	103.0	103.0	103.0	100.4	96.6
65	103.0	103.0	103.0	103.0	103.0	103.0	103.0	100.4	96.6
70	103.0	103.0	103.0	103.0	103.0	103.0	103.0	100.4	96.6
75	103.0	103.0	103.0	103.0	103.0	103.0	103.0	100.4	96.6
80	103.0	103.0	103.0	103.0	103.0	103.0	103.0	100.4	96.6
85	103.0	103.0	103.0	103.0	103.0	103.0	103.0	99.9	96.2
90	103.0	103.0	103.0	103.0	103.0	103.0	101.4	97.7	94.0
95	103.0	103.0	103.0	103.0	103.0	102.9	99.1	95.5	91.9
100	103.0	103.0	103.0	103.0	103.0	100.5	96.9	93.3	89.9
105	103.0	103.0	103.0	103.0	101.9	98.2	94.6	91.1	87.7
110	103.0	103.0	103.0	103.0	99.5	95.8	92.2	88.8	85.5

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
70	4.62	4.72	4.84	4.95	5.06	5.18	5.31	5.44	5.57
75	4.87	4.99	5.10	5.22	5.34	5.47	5.60	5.74	5.89
80	5.14	5.26	5.38	5.50	5.63	5.77	5.91	6.06	6.21
85	5.41	5.54	5.67	5.80	5.94	6.08	6.23	6.39	6.55
90	5.69	5.82	5.96	6.10	6.25	6.41	6.56	6.73	6.90
95	5.98	6.12	6.26	6.41	6.57	6.73	6.90	7.08	7.25
100	6.27	6.41	6.57	6.73	6.89	7.06	7.24	7.42	7.61
105	6.56	6.71	6.87	7.04	7.21	7.39	7.58	7.77	7.97

TABLE 27. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 737-200 SERIES) JT8D-9 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	100.0	99.3	95.5	91.9	88.4	84.9	81.6	78.4	75.4
55	100.0	97.7	94.0	90.4	86.9	83.6	80.3	77.2	74.2
60	100.0	96.4	92.7	89.2	85.8	82.5	79.3	76.2	73.3
65	100.0	96.4	92.7	89.2	85.8	82.5	79.3	76.2	73.3
70	100.0	96.4	92.7	89.2	85.8	82.5	79.3	76.2	73.3
75	100.0	96.4	92.7	89.2	85.8	82.5	79.3	76.2	73.3
80	100.0	96.4	92.7	89.2	85.8	82.5	79.3	76.2	73.3
85	99.7	95.9	92.3	88.8	85.4	82.1	78.9	75.9	72.9
90	97.3	93.7	90.1	86.7	83.4	80.1	77.1	74.1	71.3
95	95.1	91.5	88.1	84.7	81.4	78.3	75.3	72.4	
100	92.9	89.4	86.0	82.7	79.5	76.5	73.5	70.8	
105	90.7	87.3	83.9	80.7	77.6	74.7	71.8		
110	88.4	85.1	81.8	78.7	75.8	72.9	70.1		

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	38.8	40.4	43.5	46.9	50.6	54.6	59.1	64.1	69.6
55	39.2	41.5	44.7	48.2	52.0	56.2	60.9	66.1	71.9
60	39.4	42.5	45.8	49.4	53.2	57.5	62.3	67.7	73.8
65	39.7	42.9	46.2	49.8	53.7	58.0	62.8	68.3	74.4
70	40.0	43.2	46.6	50.2	54.1	58.5	63.4	68.9	75.1
75	40.3	43.5	46.9	50.6	54.5	58.9	63.9	69.4	75.7
80	40.6	43.9	47.3	51.0	54.9	59.4	64.4	70.0	76.4
85	41.1	44.5	47.9	51.6	55.7	60.1	65.2	70.9	77.4
90	42.6	46.0	49.6	53.4	57.6	62.3	67.5	73.4	80.1
95	44.1	47.6	51.3	55.3	59.7	64.6	70.1	76.3	83.3
100	45.6	49.3	53.1	57.3	61.9	67.1	72.9	79.4	86.9
105	47.3	51.0	55.0	59.4	64.3	69.7	75.8	82.7	
110	48.8	52.7	56.9	61.6	66.7	72.4	78.9		

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"										
1000 LBS	35	40	45	50	55	60	65	70	75	80	85
70	2.50	2.78	3.11	3.44	3.78	4.11	4.44	4.76	5.07	5.36	5.63
75	2.81	3.18	3.57	3.95	4.34	4.72	5.10	5.48	5.85	6.20	6.54
80	3.18	3.62	4.07	4.51	4.96	5.41	5.85	6.29	6.73	7.15	7.57
85	3.59	4.10	4.61	5.13	5.65	6.16	6.68	7.20	7.71	8.22	8.73
90	4.03	4.62	5.21	5.81	6.40	7.00	7.60	8.20	8.80	9.40	
95	4.51	5.19	5.87	6.55	7.23	7.92	8.61	9.30			
100	5.04	5.82	6.59	7.36	8.14	8.92					

TABLE 28. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 737-200 SERIES) JT8D-9 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	107.7	106.9	102.7	98.6	94.8	91.0	87.4	83.9	80.6
55	107.7	105.1	100.9	97.0	93.1	89.5	85.9	82.5	79.3
60	107.7	103.5	99.5	95.6	91.8	88.2	84.7	81.4	78.2
65	107.7	103.5	99.5	95.6	91.8	88.2	84.7	81.4	78.2
70	107.7	103.5	99.5	95.6	91.8	88.2	84.7	81.4	78.2
75	107.7	103.5	99.5	95.6	91.8	88.2	84.7	81.4	78.2
80	107.7	103.5	99.5	95.6	91.8	88.2	84.7	81.4	78.2
85	107.2	103.1	99.0	95.2	91.4	87.8	84.3	81.0	77.9
90	104.7	100.6	96.7	92.9	89.3	85.8	82.4	79.3	76.3
95	102.2	98.2	94.4	90.7	87.2	83.8	80.5	77.4	74.5
100	99.7	95.8	92.1	88.5	85.1	81.8	78.6	75.6	72.7
105	97.1	93.5	89.9	86.4	83.0	79.8	76.7	73.8	71.0
110	94.6	91.1	87.7	84.3	81.1	77.9	75.0	72.2	69.6

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	44.6	46.6	50.2	54.0	58.2	62.8	67.9	73.5	79.7
55	45.1	47.9	51.5	55.4	59.7	64.5	69.7	75.5	82.0
60	45.4	48.9	52.6	56.7	61.1	66.0	71.4	77.3	83.9
65	45.8	49.3	53.1	57.2	61.6	66.6	72.0	78.0	84.7
70	46.2	49.7	53.5	57.7	62.2	67.2	72.7	78.8	85.5
75	46.6	50.2	54.0	58.2	62.7	67.7	73.3	79.5	86.3
80	46.9	50.6	54.5	58.7	63.3	68.3	73.9	80.2	87.1
85	47.6	51.3	55.2	59.5	64.1	69.3	75.0	81.4	88.4
90	49.2	53.1	57.2	61.6	66.5	71.8	77.8	84.4	91.8
95	50.9	54.9	59.1	63.7	68.8	74.4	80.7	87.5	95.2
100	52.6	56.7	61.1	66.0	71.3	77.1	83.6	90.8	98.8
105	54.4	58.6	63.2	68.3	73.9	80.0	86.8	94.3	
110	56.4	60.7	65.5	70.8	76.6	83.1	90.3		

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 40	50	60	70	80	90	100
75	3.00	3.63	4.33	5.02	5.71	6.38	7.03
80	3.30	4.12	4.93	5.73	6.52	7.29	8.06
85	3.71	4.65	5.58	6.50	7.42	8.32	9.22
90	4.17	5.24	6.31	7.37	8.43	9.49	10.54
95	4.68	5.89	7.11	8.33	9.56	10.80	12.05
100	5.23	6.61	8.00	9.41	10.84	12.29	
105	5.83	7.40	8.99	10.61	12.26		
110	6.48	8.26	10.07	11.94			

TABLE 29. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 737-200 SERIES) JT8D-9 ENGINE, 1° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	114.9	114.1	109.4	104.9	100.6	96.5	92.5	88.8	85.2
55	114.9	112.0	107.4	103.0	98.8	94.8	90.9	87.2	83.7
60	114.9	110.4	105.8	101.5	97.4	93.4	89.6	86.0	82.5
65	114.9	110.4	105.8	101.5	97.4	93.4	89.6	86.0	82.5
70	114.9	110.4	105.8	101.5	97.4	93.4	89.6	86.0	82.5
75	114.9	110.4	105.8	101.5	97.4	93.4	89.6	86.0	82.5
80	114.9	110.4	105.8	101.5	97.4	93.4	89.6	86.0	82.5
85	114.5	109.8	105.3	101.0	96.9	93.0	89.2	85.6	82.2
90	111.8	107.1	102.7	98.5	94.5	90.7	87.0	83.6	80.3
95	108.9	104.4	100.1	96.0	92.1	88.4	84.9	81.5	78.4
100	105.9	101.6	97.5	93.6	89.8	86.2	82.8	79.6	76.6
105	103.0	98.9	94.9	91.1	87.5	84.1	80.8	77.7	74.8
110	100.3	96.3	92.4	88.7	85.2	82.0	78.9	76.0	

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	52.2	54.4	58.5	63.1	68.3	73.9	80.2	87.0	94.4
55	52.6	55.9	60.1	64.8	70.1	75.9	82.3	89.4	97.1
60	53.2	57.1	61.5	66.3	71.6	77.6	84.2	91.5	99.5
65	53.7	57.6	62.0	66.9	72.3	78.3	85.0	92.4	100.5
70	54.1	58.1	62.6	67.5	73.0	79.1	85.8	93.3	101.5
75	54.5	58.6	63.1	68.1	73.7	79.9	86.7	94.2	102.5
80	54.9	59.1	63.7	68.8	74.4	80.6	87.5	95.1	103.6
85	55.7	59.9	64.6	69.8	75.5	81.9	88.9	96.6	105.1
90	57.6	62.1	67.0	72.4	78.4	85.0	92.3	100.1	108.7
95	59.6	64.1	69.2	74.9	81.2	88.2	95.7	103.9	112.7
100	61.7	66.3	71.6	77.6	84.1	91.4	99.2	107.8	116.9
105	63.8	68.7	74.3	80.5	87.3	94.9	103.0	111.8	
110	66.1	71.5	77.4	83.9	91.0	98.8	107.1		

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120
75	4.00	4.04	4.62	5.18	5.76	6.34	6.94	7.57
80	4.00	4.53	5.21	5.88	6.56	7.25	7.98	8.74
85	4.26	5.09	5.90	6.69	7.48	8.30	9.16	10.08
90	4.75	5.73	6.67	7.59	8.53	9.49	10.50	11.58
95	5.31	6.45	7.54	8.61	9.69	10.80	11.98	13.24
100	5.95	7.26	8.51	9.74	10.98	12.25	13.60	15.06
105	6.66	8.16	9.59	10.98	12.39	13.83	15.37	
110	7.46	9.16	10.77	12.34	13.92	15.55		
115	8.35	10.26	12.07	13.83	15.58			

TABLE 30. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 737-200 SERIES)
JT8D-9 ENGINE, 1° FLAP, 2% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	115.5	115.5	111.8	107.1	102.7	98.5	94.5	90.7	87.1
55	115.5	114.5	109.8	105.3	101.0	96.9	92.9	89.2	85.6
60	115.5	112.7	108.2	103.8	99.5	95.5	91.6	88.0	84.4
65	115.5	112.7	108.2	103.8	99.5	95.5	91.6	88.0	84.4
70	115.5	112.7	108.2	103.8	99.5	95.5	91.6	88.0	84.4
75	115.5	112.7	108.2	103.8	99.5	95.5	91.6	88.0	84.4
80	115.5	112.7	108.2	103.8	99.5	95.5	91.6	88.0	84.4
85	115.5	112.2	107.6	103.2	99.0	95.0	91.2	87.5	84.0
90	114.2	109.5	105.0	100.7	96.6	92.7	89.0	85.4	82.0
95	111.3	106.7	102.3	98.2	94.2	90.4	86.8	83.3	80.1
100	108.3	103.9	99.7	95.7	91.9	88.2	84.7	81.3	78.1
105	105.4	101.1	97.1	93.2	89.5	86.0	82.6	79.4	76.2
110	102.5	98.4	94.5	90.8	87.2	83.8	80.6	77.4	

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	52.2	54.4	58.5	63.1	68.3	73.9	80.2	87.0	94.4
55	52.6	55.9	60.1	64.8	70.1	75.9	82.3	89.4	97.1
60	53.2	57.1	61.5	66.3	71.6	77.6	84.2	91.5	99.5
65	53.7	57.6	62.0	66.9	72.3	78.3	85.0	92.4	100.5
70	54.1	58.1	62.6	67.5	73.0	79.1	85.8	93.3	101.5
75	54.5	58.6	63.1	68.1	73.7	79.9	86.7	94.2	102.5
80	54.9	59.1	63.7	68.8	74.4	80.6	87.5	95.1	103.6
85	55.7	59.9	64.6	69.8	75.5	81.9	88.9	96.6	105.1
90	57.6	62.1	67.0	72.4	78.4	85.0	92.3	100.1	108.7
95	59.6	64.1	69.2	74.9	81.2	88.2	95.7	103.9	112.7
100	61.7	66.3	71.6	77.6	84.1	91.4	99.2	107.8	116.9
105	63.8	68.7	74.3	80.5	87.3	94.9	103.0	111.8	
110	66.1	71.5	77.4	83.9	91.0	98.8	107.1		

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"							
1000 LBS	50	60	70	80	90	100	110	120
75	4.00	4.04	4.62	5.18	5.76	6.34	6.94	7.57
80	4.00	4.53	5.21	5.88	6.56	7.25	7.98	8.74
85	4.26	5.09	5.90	6.69	7.48	8.30	9.16	10.08
90	4.75	5.73	6.67	7.59	8.53	9.49	10.50	11.58
95	5.31	6.45	7.54	8.61	9.69	10.80	11.98	13.24
100	5.95	7.26	8.51	9.74	10.98	12.25	13.60	15.06
105	6.66	8.16	9.59	10.98	12.39	13.83	15.37	
110	7.46	9.16	10.77	12.34	13.92	15.55		
115	8.35	10.26	12.07	13.83	15.58			
120	9.35	11.47	13.48	15.43				

TABLE 31. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 737-200 SERIES)
JT8D-9 ENGINE, 1° FLAPS, 5% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	115.5	115.5	114.4	109.6	105.2	101.0	97.0	93.2	89.5
55	115.5	115.5	112.4	107.9	103.6	99.5	95.5	91.7	87.9
60	115.5	115.5	110.8	106.4	102.2	98.1	94.2	90.4	86.8
65	115.5	115.5	110.8	106.4	102.2	98.1	94.2	90.4	86.8
70	115.5	115.5	110.8	106.4	102.2	98.1	94.2	90.4	86.8
75	115.5	115.5	110.8	106.4	102.2	98.1	94.2	90.4	86.8
80	115.5	115.5	110.8	106.4	102.2	98.1	94.2	90.4	86.8
85	115.5	115.0	110.3	105.9	101.7	97.6	93.7	90.0	86.4
90	115.5	112.2	107.7	103.3	99.2	95.2	91.4	87.8	84.3
95	114.1	109.4	105.0	100.7	96.7	92.9	89.2	85.7	82.2
100	111.0	106.5	102.3	98.2	94.4	90.6	87.1	83.6	80.1
105	108.0	103.7	99.6	95.7	92.0	88.4	84.9	81.5	78.1
110	105.2	101.0	97.0	93.3	89.7	86.2	82.8	79.5	

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	52.2	54.4	58.5	63.1	68.3	73.9	80.2	87.0	94.4
55	52.6	55.9	60.1	64.8	70.1	75.9	82.3	89.4	97.1
60	53.2	57.1	61.5	66.3	71.6	77.6	84.2	91.5	99.5
65	53.7	57.6	62.0	66.9	72.3	78.3	85.0	92.4	100.5
70	54.1	58.1	62.6	67.5	73.0	79.1	85.8	93.3	101.5
75	54.5	58.6	63.1	68.1	73.7	79.9	86.7	94.2	102.5
80	54.9	59.1	63.7	68.8	74.4	80.6	87.5	95.1	103.6
85	55.7	59.9	64.6	69.8	75.5	81.9	88.9	96.6	105.1
90	57.6	62.1	67.0	72.4	78.4	85.0	92.3	100.1	108.7
95	59.6	64.1	69.2	74.9	81.2	88.2	95.7	103.9	112.7
100	61.7	66.3	71.6	77.6	84.1	91.4	99.2	107.8	116.9
105	63.8	68.7	74.3	80.5	87.3	94.9	103.0	111.8	
110	66.1	71.5	77.4	83.9	91.0	98.8	107.1		

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120
75	4.00	4.04	4.62	5.18	5.76	6.34	6.94	7.57
80	4.00	4.53	5.21	5.88	6.56	7.25	7.98	8.74
85	4.26	5.09	5.90	6.69	7.48	8.30	9.16	10.08
90	4.75	5.73	6.67	7.59	8.53	9.49	10.50	11.58
95	5.31	6.45	7.54	8.61	9.69	10.80	11.98	13.24
100	5.95	7.26	8.51	9.74	10.98	12.25	13.60	15.06
105	6.66	8.16	9.59	10.98	12.39	13.83	15.37	
110	7.46	9.16	10.77	12.34	13.92	15.55		
115	8.35	10.26	12.07	13.83	15.58			
120	9.35	11.47	13.48	15.43				

TABLE 32. AIRCRAFT PERFORMANCE, LANDING (BOEING 737-200 SERIES) JT8D-15 ENGINE, 40° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	103.0	103.0	103.0	103.0	103.0	103.0	102.7	98.8	95.0
55	103.0	103.0	103.0	103.0	103.0	103.0	102.7	98.8	95.0
60	103.0	103.0	103.0	103.0	103.0	103.0	102.7	98.8	95.0
65	103.0	103.0	103.0	103.0	103.0	103.0	102.7	98.8	95.0
70	103.0	103.0	103.0	103.0	103.0	103.0	101.9	98.0	94.0
75	103.0	103.0	103.0	103.0	103.0	103.0	100.8	97.1	93.2
80	103.0	103.0	103.0	103.0	103.0	103.0	99.6	95.9	92.2
85	103.0	103.0	103.0	103.0	103.0	101.8	98.1	94.5	91.0
90	103.0	103.0	103.0	103.0	103.0	100.1	96.5	93.0	89.5
95	103.0	103.0	103.0	103.0	101.9	98.2	94.7	91.2	87.8
100	103.0	103.0	103.0	103.0	99.8	96.2	92.7	89.2	85.9
105	103.0	103.0	103.0	101.1	97.5	93.9	90.5	87.1	83.8
110	103.0	103.0	102.1	98.5	94.9	91.5	88.1	84.7	81.5

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
70	3.95	4.05	4.14	4.23	4.31	4.40	4.50	4.59	4.70
75	4.15	4.25	4.35	4.44	4.54	4.64	4.75	4.86	4.98
80	4.35	4.46	4.56	4.66	4.77	4.88	5.00	5.12	5.25
85	4.56	4.67	4.78	4.89	5.01	5.13	5.25	5.39	5.53
90	4.77	4.88	5.00	5.12	5.25	5.38	5.51	5.65	5.80
95	4.98	5.11	5.23	5.36	5.49	5.63	5.77	5.92	6.07
100	5.20	5.33	5.47	5.60	5.74	5.88	6.03	6.18	6.34
105	5.42	5.57	5.71	5.85	5.99	6.14	6.29	6.44	6.61

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	ADVANCED 200	OPTIONS 200C
MAXIMUM TAKEOFF WEIGHT	LBS.	109,000	115,500
MAXIMUM LANDING WEIGHT			
FLAPS 30°	LBS.	98,000	103,000
FLAPS 40°	LBS.	89,700	103,000
TYPICAL OPERATING EMPTY	LBS.	67,238	70,138 1/
WEIGHT PLUS RESERVE FUEL	LBS.	71,480	74,380 2/
AVERAGE FUEL CONSUMPTION	LBS./MILE	15	15
TYPICAL MAXIMUM PASSENGER LOAD AT 200 LBS/PASSENGER	LBS.	26,000	26,000
MAXIMUM STRUCTURAL PAYLOAD	LBS.	34,830	31,930

1/ Based on 1.25 hours of reserve fuel.
2/ Based on 2.00 hours of reserve fuel.

TABLE 33. AIRCRAFT PERFORMANCE, LANDING (BOEING 737-200 SERIES)
JT8D-15 ENGINE, 30° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	103.0	103.0	103.0	103.0	103.0	103.0	102.7	98.8	95.0
55	103.0	103.0	103.0	103.0	103.0	103.0	102.7	98.8	95.0
60	103.0	103.0	103.0	103.0	103.0	103.0	102.7	98.8	95.0
65	103.0	103.0	103.0	103.0	103.0	103.0	102.7	98.8	95.0
70	103.0	103.0	103.0	103.0	103.0	103.0	101.9	98.0	94.0
75	103.0	103.0	103.0	103.0	103.0	103.0	100.8	97.1	93.2
80	103.0	103.0	103.0	103.0	103.0	103.0	99.6	95.9	92.2
85	103.0	103.0	103.0	103.0	103.0	101.8	98.1	94.5	91.0
90	103.0	103.0	103.0	103.0	103.0	100.1	96.5	93.0	89.5
95	103.0	103.0	103.0	103.0	101.9	98.2	94.7	91.2	87.8
100	103.0	103.0	103.0	103.0	99.8	96.2	92.7	89.2	85.9
105	103.0	103.0	103.0	101.1	97.5	93.9	90.5	87.1	83.8
110	103.0	103.0	102.1	98.5	94.9	91.5	88.1	84.7	81.5

RUNWAY LENGTH (1000 FEET)

WEIGHT	AIRPORT ELEVATION (FEET)								
1000 LBS	0	1000	2000	3000	4000	5000	6000	7000	8000
70	4.25	4.35	4.45	4.55	4.65	4.76	4.87	4.98	5.10
75	4.48	4.59	4.70	4.81	4.91	5.02	5.13	5.26	5.39
80	4.70	4.83	4.95	5.06	5.17	5.29	5.40	5.53	5.68
85	4.94	5.08	5.20	5.32	5.43	5.55	5.68	5.81	5.97
90	5.17	5.32	5.45	5.57	5.69	5.82	5.95	6.09	6.25
95	5.41	5.56	5.70	5.83	5.95	6.08	6.22	6.37	6.54
100	5.65	5.80	5.94	6.08	6.21	6.35	6.50	6.66	6.83
105	5.90	6.04	6.18	6.32	6.47	6.62	6.78	6.94	7.11

TABLE 34. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 737-200 SERIES) JT8D-15 ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	104.5	100.5	97.5	93.7	90.0	86.4	83.0	80.0	77.5
55	104.2	100.0	97.5	93.7	90.0	86.4	83.0	80.0	77.5
60	103.8	99.5	97.5	93.7	90.0	86.4	83.0	80.0	77.5
65	103.5	99.0	97.5	93.7	90.0	86.4	83.0	80.0	77.5
70	101.0	98.9	96.3	93.3	89.9	86.5	83.0	79.6	76.5
75	100.9	98.4	95.4	92.2	88.8	85.4	82.0	78.7	75.8
80	100.5	97.5	94.3	91.0	87.5	84.1	80.9	77.8	75.0
85	99.7	96.4	93.0	89.6	86.1	82.8	79.6	76.7	74.1
90	98.5	95.0	91.5	88.0	84.6	81.4	78.3	75.5	73.0
95	96.9	93.3	89.7	86.3	83.0	79.8	76.9	74.2	71.8
100	95.0	91.3	87.8	84.4	81.2	78.2	75.4	72.8	70.5
105	92.7	89.0	85.5	82.3	79.2	76.4	73.7	71.3	69.1
110	90.0	86.4	83.1	80.0	77.2	74.5	72.0	69.7	67.5

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	43.5	45.0	48.0	52.0	56.2	60.6	65.4	70.5	76.0
55	43.7	45.5	48.2	52.2	56.3	60.7	65.5	70.7	76.4
60	43.9	45.6	48.6	52.5	56.7	61.1	66.0	71.3	77.0
65	44.1	45.9	49.2	53.1	57.2	61.8	66.7	72.1	78.0
70	44.3	46.4	50.0	53.9	58.1	62.6	67.6	73.1	79.1
75	44.5	47.4	51.0	54.9	59.1	63.8	68.9	74.5	80.6
80	45.1	48.5	52.1	56.1	60.4	65.2	70.4	76.1	82.3
85	46.4	49.8	53.5	57.5	62.0	66.8	72.2	78.0	84.3
90	47.7	51.2	55.0	59.2	63.7	68.7	74.2	80.1	86.6
95	49.2	52.8	56.7	61.0	65.7	70.9	76.5	82.6	89.2
100	50.8	54.5	58.6	63.1	68.0	73.3	79.1	85.3	92.0
105	52.5	56.4	60.7	65.3	70.4	76.0	81.9	88.3	95.1
110	54.3	58.4	62.9	67.8	73.1	78.9	85.0	91.5	98.5

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 40	50	60	70	80	90	100
70	2.28	2.71	3.11	3.50	3.90	4.33	4.83
75	2.46	2.99	3.47	3.96	4.47	5.04	5.70
80	2.69	3.31	3.89	4.47	5.08	5.77	6.57
85	2.95	3.67	4.35	5.03	5.74	6.52	7.42
90	3.25	4.07	4.85	5.63	6.44	7.30	8.26
95	3.59	4.51	5.40	6.28	7.18	8.10	9.08
100	3.97	5.00	6.00	6.99	7.96	8.92	9.89
105	4.38	5.53	6.65	7.74	8.78	9.77	10.68
110	4.84	6.09	7.34	8.53	9.65	10.64	11.47
115	5.33	6.70	8.07	9.38	10.55	11.53	

TABLE 35. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 737-200 SERIES)
JT8D-15 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	110.0	106.0	102.5	98.7	95.0	91.3	87.8	84.5	81.5
55	109.7	105.5	102.5	98.7	95.0	91.3	87.8	84.5	81.5
60	109.3	105.0	102.5	98.7	95.0	91.3	87.8	84.5	81.5
65	109.0	104.5	102.5	98.7	95.0	91.3	87.8	84.5	81.5
70	106.5	104.3	101.4	98.1	94.6	90.9	87.2	83.7	80.5
75	106.3	103.5	100.4	97.0	93.5	89.9	86.4	82.9	79.7
80	105.7	102.5	99.2	95.8	92.3	88.8	85.4	82.0	78.8
85	104.8	101.3	97.8	94.3	90.9	87.5	84.2	80.9	77.7
90	103.5	99.8	96.2	92.7	89.3	86.1	82.8	79.7	76.5
95	101.9	98.0	94.4	90.9	87.6	84.4	81.3	78.3	75.2
100	100.0	96.0	92.4	89.0	85.7	82.6	79.6	76.7	73.8
105	97.6	93.8	90.2	86.8	83.6	80.6	77.7	74.9	72.2
110	95.0	91.3	87.8	84.5	81.4	78.4	75.7	73.0	70.5

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	46.0	47.5	50.5	55.0	59.4	64.0	68.9	74.1	80.0
55	46.4	48.1	50.8	55.2	59.6	64.2	69.1	74.4	80.3
60	46.8	48.8	51.3	55.6	60.0	64.6	69.6	75.0	80.9
65	47.2	49.4	52.0	56.2	60.6	65.3	70.4	75.8	81.9
70	47.6	49.6	52.9	57.1	61.5	66.3	71.4	77.0	83.1
75	48.0	49.9	53.9	58.1	62.6	67.5	72.7	78.4	84.7
80	48.4	51.1	55.1	59.4	63.9	68.9	74.3	80.1	86.5
85	48.8	52.5	56.5	60.8	65.5	70.6	76.1	82.1	88.7
90	50.3	54.0	58.1	62.5	67.3	72.6	78.3	84.4	91.1
95	51.9	55.7	59.8	64.4	69.3	74.8	80.6	87.0	93.9
100	53.7	57.5	61.8	66.5	71.6	77.2	83.3	89.9	97.0
105	55.5	59.5	63.9	68.7	74.1	79.9	86.2	93.0	100.3
110	57.4	61.6	66.2	71.2	76.8	82.9	89.4	96.5	104.0

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 45	55	65	75	85	95	105
70	2.39	2.90	3.36	3.77	4.18	4.59	5.04
75	2.67	3.23	3.75	4.27	4.79	5.35	5.97
80	2.98	3.60	4.20	4.81	5.45	6.13	6.88
85	3.32	4.01	4.70	5.40	6.14	6.92	7.78
90	3.67	4.47	5.25	6.05	6.87	7.74	8.66
95	4.05	4.96	5.85	6.74	7.64	8.57	9.53
100	4.46	5.50	6.50	7.49	8.45	9.42	10.39
105	4.88	6.08	7.21	8.28	9.30	10.28	11.23
110	5.33	6.70	7.96	9.12	10.19	11.17	12.06
115	5.81	7.36	8.76	10.02	11.12	12.07	

TABLE 36. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 737-200 SERIES) JT8D-15 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	115.5	115.5	114.1	110.1	106.0	102.0	98.1	94.4	91.0
55	115.5	115.5	114.1	110.1	106.0	102.0	98.1	94.4	91.0
60	115.5	115.5	114.1	110.1	106.0	102.0	98.1	94.4	91.0
65	115.5	115.5	114.1	110.1	106.0	102.0	98.1	94.4	91.0
70	115.5	115.5	113.5	109.6	105.6	101.5	97.4	93.6	90.0
75	115.5	115.1	111.6	107.7	103.8	99.8	95.8	92.1	88.6
80	115.5	113.3	109.7	105.8	101.9	98.0	94.2	90.6	87.2
85	114.8	111.4	107.7	104.0	100.1	96.3	92.6	89.1	85.8
90	113.1	109.5	105.8	102.1	98.3	94.6	91.0	87.5	84.3
95	111.3	107.6	103.9	100.2	96.5	92.9	89.4	86.0	82.9
100	109.5	105.7	102.0	98.3	94.7	91.1	87.8	84.5	81.5
105	107.8	103.9	100.1	96.4	92.8	89.4	86.1	83.0	80.0
110	106.0	102.0	98.1	94.5	91.0	87.7	84.5	81.5	78.6

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	48.0	49.5	53.0	57.5	62.2	67.1	72.4	78.1	84.5
55	48.1	50.1	53.3	57.8	62.4	67.4	72.7	78.5	84.8
60	48.2	50.8	53.8	58.3	62.9	67.9	73.2	79.1	85.5
65	48.3	51.4	54.5	59.0	63.6	68.7	74.1	80.0	86.5
70	48.5	51.3	55.5	59.9	64.6	69.7	75.2	81.3	87.8
75	48.6	52.4	56.6	61.0	65.8	71.0	76.7	82.8	89.4
80	50.0	53.7	57.9	62.4	67.3	72.6	78.4	84.6	91.4
85	51.4	55.2	59.4	63.9	69.0	74.4	80.4	86.8	93.7
90	53.0	56.8	61.0	65.7	70.9	76.5	82.6	89.2	96.3
95	54.7	58.6	62.9	67.7	73.1	78.9	85.2	91.9	99.2
100	56.5	60.5	65.0	70.0	75.5	81.5	88.0	95.0	102.5
105	58.4	62.6	67.2	72.4	78.1	84.4	91.1	98.3	106.1
110	60.4	64.8	69.7	75.1	81.0	87.5	94.5	102.0	110.0

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"						
1000 LBS	50	60	70	80	90	100	110
70	2.61	3.12	3.56	3.96	4.36	4.78	5.25
75	2.93	3.49	4.00	4.50	5.01	5.57	6.21
80	3.28	3.90	4.49	5.08	5.70	6.39	7.16
85	3.65	4.36	5.04	5.72	6.44	7.23	8.10
90	4.06	4.86	5.64	6.42	7.23	8.09	9.04
95	4.51	5.41	6.29	7.17	8.06	8.99	9.96
100	4.98	6.00	7.00	7.98	8.94	9.91	10.87
105	5.48	6.64	7.76	8.84	9.87	10.85	11.78
110	6.02	7.32	8.57	9.75	10.84	11.82	12.67
115	6.59	8.05	9.44	10.72	11.86	12.82	

TABLE 37. GENERAL CHARACTERISTICS (BOEING 747 SERIES) JT9D-7A ENGINE

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	-100 BASIC	-100 MODIFIED	-200B	-200C PASS.	-200C CARGO	-200F
MAXIMUM TAKEOFF WEIGHT	LBS.	712,000	735,000	785,000	785,000	785,000	785,000
MAXIMUM LANDING WEIGHT	LBS.	564,000	564,000	564,000	630,000	630,000	630,000
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL 1/	LBS.	385,700 402,600	385,900 402,800	395,900 414,000	407,900 426,000	386,100 404,700	369,700 389,400
AVERAGE FUEL CONSUMPTION	LBS./MILE	45	45	47	47	49	51
TYPICAL MAXIMUM PASSENGER LOAD @ 200 LBS./PASSENGER	LBS.	77,000 83,200 100,000	77,000 83,200 100,000	77,000 83,200 100,000	77,000 83,200 100,000	— — —	— — —
MAXIMUM STRUCTURAL PAYLOAD	LBS.	168,600	168,400	160,700	212,200	235,100	253,000
ENGINE INJECTION WATER	LBS.	5,010	5,010	5,850	5,850	5,850	5,850

1/ All values on the top line are based on 1.25 hours of reserve fuel. All values on the bottom line are based on 2.00 hours of reserve fuel. The 2.00 hour value should be used for operations, outside the 48 contiguous States, to an airport for which an alternate is not specified.

NOTE: This series of performance tables was developed around the wet thrust capability of the JT9D-7A engine; and for that reason, the weight of engine injection water should be added to the weight no payload prior to adding the value for payload, par 2a(3)(e).

TABLE 38. AIRCRAFT PERFORMANCE, LANDING (BOEING 747 SERIES)
JT9D-7A ENGINE, 30° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)									
°F	0	1000	2000	3000	4000	5000	5000	6000	7000	8000
50	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	625.0
55	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	620.5
60	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	611.5
65	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	626.0	603.3
70	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	617.4	595.0
75	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	608.7	586.6
80	630.0	630.0	630.0	630.0	630.0	630.0	630.0	622.3	599.8	578.0
85	630.0	630.0	630.0	630.0	630.0	630.0	630.0	612.9	590.6	569.3
90	630.0	630.0	630.0	630.0	630.0	622.5	625.7	603.2	581.2	560.2
95	630.0	630.0	630.0	630.0	630.0	611.2	615.5	593.2	571.6	550.8
100	630.0	630.0	630.0	630.0	622.3	599.8	605.0	582.9	561.6	541.0
105	630.0	630.0	630.0	630.0	610.6	588.5	594.0	572.2	551.2	530.8
110	630.0	630.0	630.0	622.0	599.5	577.5	582.5	561.1	540.5	520.0

RUNWAY LENGTH (1000 FEET)

WEIGHT	AIRPORT ELEVATION (FEET)								
1000 LBS	0	1000	2000	3000	4000	5000	6000	7000	8000
460	6.37	6.53	6.69	6.85	7.03	7.20	7.38	7.57	7.76
470	6.48	6.65	6.81	6.98	7.16	7.34	7.52	7.71	7.90
480	6.60	6.77	6.94	7.11	7.29	7.47	7.66	7.85	8.04
490	6.71	6.88	7.06	7.24	7.42	7.61	7.79	7.98	8.18
500	6.82	7.00	7.19	7.37	7.55	7.74	7.93	8.12	8.33
510	6.94	7.12	7.31	7.50	7.68	7.87	8.06	8.27	8.48
520	7.05	7.24	7.43	7.62	7.81	7.99	8.20	8.41	8.63
530	7.17	7.36	7.56	7.74	7.93	8.13	8.34	8.56	8.77
540	7.28	7.48	7.68	7.87	8.05	8.26	8.48	8.70	8.92
550	7.40	7.60	7.80	7.99	8.19	8.40	8.62	8.84	9.07
560	7.52	7.72	7.92	8.11	8.32	8.54	8.76	8.99	9.22
570	7.64	7.84	8.03	8.24	8.46	8.67	8.90	9.13	9.36
580	7.76	7.96	8.16	8.37	8.59	8.81	9.04	9.27	9.51
590	7.88	8.08	8.29	8.50	8.72	8.94	9.17	9.41	9.66
600	8.00	8.21	8.42	8.63	8.85	9.08	9.31	9.55	9.80
610	8.13	8.33	8.54	8.76	8.98	9.21	9.45	9.70	9.95
620	8.25	8.46	8.67	8.89	9.12	9.35	9.59	9.84	10.10
630	8.37	8.58	8.80	9.02	9.25	9.48	9.73	9.98	10.25

TABLE 39. AIRCRAFT PERFORMANCE, LANDING (BOEING 747 SERIES)
JT9D-7A ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)									
°F	0	1000	2000	3000	4000	5000	5000	6000	7000	8000
50	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0
55	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0
60	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	621.6
65	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	612.4
70	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	626.4	603.3
75	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	617.1	594.3
80	630.0	630.0	630.0	630.0	630.0	630.0	630.0	630.0	607.6	585.2
85	630.0	630.0	630.0	630.0	630.0	630.0	630.0	621.0	597.9	575.9
90	630.0	630.0	630.0	630.0	630.0	628.0	630.0	610.7	588.1	566.4
95	630.0	630.0	630.0	630.0	630.0	616.6	623.0	600.2	577.9	556.7
100	630.0	630.0	630.0	630.0	629.0	605.0	611.6	589.3	567.3	546.6
105	630.0	630.0	630.0	630.0	617.0	593.4	599.7	578.1	556.4	536.0
110	630.0	630.0	630.0	627.5	605.0	582.0	587.5	566.5	545.0	525.0

RUNWAY LENGTH (1000 FEET)

WEIGHT	AIRPORT ELEVATION (FEET)								
1000 LBS	0	1000	2000	3000	4000	5000	6000	7000	8000
460	6.77	6.93	7.10	7.27	7.44	7.63	7.81	8.01	8.22
470	6.90	7.06	7.24	7.41	7.59	7.78	7.96	8.17	8.39
480	7.03	7.20	7.38	7.56	7.74	7.93	8.13	8.34	8.56
490	7.17	7.34	7.52	7.70	7.89	8.08	8.29	8.51	8.73
500	7.30	7.47	7.66	7.85	8.04	8.24	8.46	8.68	8.90
510	7.43	7.61	7.80	7.99	8.18	8.40	8.62	8.85	9.07
520	7.57	7.75	7.94	8.13	8.33	8.55	8.78	9.01	9.24
530	7.70	7.88	8.07	8.27	8.48	8.71	8.94	9.18	9.41
540	7.84	8.02	8.21	8.42	8.64	8.87	9.10	9.34	9.59
550	7.97	8.15	8.35	8.57	8.79	9.02	9.26	9.51	9.76
560	8.10	8.30	8.50	8.72	8.94	9.18	9.42	9.67	9.93
570	8.24	8.44	8.65	8.87	9.10	9.34	9.58	9.84	10.10
580	8.39	8.60	8.81	9.03	9.26	9.49	9.74	10.00	10.28
590	8.54	8.75	8.97	9.18	9.41	9.65	9.90	10.17	10.45
600	8.69	8.91	9.12	9.34	9.57	9.81	10.06	10.33	10.62
610	8.84	9.06	9.27	9.50	9.73	9.97	10.23	10.50	10.79
620	8.98	9.20	9.42	9.65	9.88	10.13	10.39	10.67	10.96
630	9.11	9.34	9.57	9.80	10.04	10.29	10.56	10.84	11.13

TABLE 40. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 747 SERIES)
JT9D-7A ENGINE, 20° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	785.0	771.0	751.0	730.0	710.0	689.5	669.0	647.0	626.5
55	785.0	771.0	751.0	730.0	710.0	689.5	669.0	647.0	626.5
60	785.0	771.0	751.0	730.0	710.0	689.5	669.0	647.0	622.0
65	785.0	771.0	751.0	730.0	710.0	689.5	666.9	640.2	614.7
70	785.0	771.0	751.0	730.0	710.0	684.9	657.6	631.6	606.4
75	785.0	771.0	751.0	730.0	701.8	674.2	647.7	622.2	597.5
80	785.0	771.0	747.0	717.9	690.0	663.1	637.2	612.2	588.0
85	785.0	763.0	733.7	705.5	678.2	651.9	626.5	601.9	578.2
90	779.1	749.6	721.0	693.3	666.6	640.7	615.6	591.5	568.1
95	765.9	736.8	708.7	681.4	655.0	629.5	604.8	581.0	558.1
100	753.1	724.4	696.7	669.8	643.7	618.6	594.3	570.8	548.3
105	740.3	712.0	684.7	658.3	632.8	608.0	584.2	561.1	538.8
110	727.0	699.4	672.8	647.0	622.1	598.0	574.6	551.9	529.8

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	60.5	64.5	68.6	73.0	77.8	83.1	89.0	95.5	102.8
55	61.2	65.1	69.3	73.8	78.7	84.0	89.9	96.5	103.8
60	61.8	65.8	70.0	74.6	79.5	84.9	90.9	97.6	104.2
65	62.4	66.5	70.7	75.3	80.3	85.8	90.9	98.7	107.8
70	63.1	67.2	71.5	76.1	81.1	86.4	93.6	101.7	111.1
75	63.7	67.9	72.2	76.8	82.2	88.8	96.2	104.6	114.3
80	64.4	68.6	72.6	78.2	84.3	91.1	98.8	107.5	117.4
85	65.0	69.2	74.5	80.2	86.5	93.6	101.5	110.4	120.5
90	66.0	71.0	76.4	82.3	88.8	96.1	104.3	113.5	123.8
95	67.8	72.8	78.4	84.5	91.3	98.8	107.3	116.7	127.2
100	69.6	74.8	80.5	86.8	93.9	101.7	110.5	120.2	131.0
105	71.5	76.8	82.7	89.3	96.7	104.9	114.0	124.1	
110	73.5	79.0	85.2	92.1	99.8	108.4	117.9		

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 60	70	80	90	100	110	120	130	140
530	4.34	4.93	5.53	6.15	6.77	7.40	8.01	8.61	9.18
550	4.58	5.27	5.96	6.65	7.34	8.02	8.69	9.36	10.01
570	4.86	5.65	6.43	7.19	7.94	8.69	9.43	10.17	10.91
590	5.18	6.06	6.92	7.76	8.59	9.41	10.23	11.05	11.88
610	5.55	6.51	7.44	8.36	9.27	10.17	11.08	11.98	12.90
630	5.95	6.98	8.00	9.01	10.00	10.99	11.98	12.98	13.98
650	6.39	7.49	8.59	9.69	10.78	11.87	12.95	14.03	15.10
670	6.86	8.03	9.22	10.41	11.61	12.80	13.97	15.13	
690	7.35	8.60	9.89	11.19	12.49	13.79	15.06		
710	7.88	9.21	10.59	12.01	13.43	14.84			
730	8.42	9.84	11.34	12.88	14.43	15.95			
750	8.99	10.51	12.13	13.81	15.49				
770	9.57	11.20	12.96	14.79					
790	10.17	11.93	13.85	15.84					

TABLE 41. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 747 SERIES)
JT9D-7A ENGINE, 10° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	785.0	785.0	785.0	763.0	742.5	720.0	697.5	675.5	653.5
55	785.0	785.0	785.0	763.0	742.5	720.0	697.5	675.5	653.5
60	785.0	785.0	785.0	763.0	742.5	720.0	697.5	675.5	649.0
65	785.0	785.0	785.0	763.0	742.5	720.0	696.1	668.5	641.5
70	785.0	785.0	785.0	763.0	742.5	714.8	686.6	659.3	632.9
75	785.0	785.0	785.0	763.0	732.9	704.0	676.2	649.3	623.3
80	785.0	785.0	781.1	750.5	721.0	692.5	665.0	638.6	613.1
85	785.0	785.0	767.7	737.7	708.6	680.5	653.5	627.4	602.4
90	785.0	784.5	754.2	724.7	696.0	668.4	641.7	616.1	591.6
95	785.0	770.5	740.7	711.6	683.5	656.3	630.1	604.9	580.9
100	785.0	756.7	727.4	698.8	671.2	644.4	618.7	594.0	570.4
105	772.9	743.3	714.4	686.4	659.3	633.1	607.9	583.7	560.6
110	759.5	730.3	702.0	674.6	648.1	622.5	597.9	574.2	551.5

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	68.3	72.4	76.7	81.6	86.9	92.9	99.5	106.9	115.2
55	69.0	73.0	77.4	82.3	87.8	93.9	100.6	108.1	116.3
60	69.7	73.7	78.1	83.0	88.5	94.6	101.4	109.0	117.5
65	70.2	74.3	78.7	83.7	89.2	95.4	101.9	110.7	120.8
70	70.8	74.9	79.4	84.3	89.9	96.4	104.5	113.7	124.3
75	71.3	75.6	80.1	85.0	91.5	98.9	107.3	116.9	127.9
80	71.9	76.2	81.0	87.1	94.0	101.6	110.3	120.3	131.6
85	72.5	77.3	83.2	89.5	96.6	104.6	113.6	123.9	135.5
90	73.8	79.4	85.4	92.0	99.4	107.7	117.1	127.6	139.6
95	75.7	81.4	87.7	94.6	102.3	110.9	120.7	131.6	143.9
100	77.7	83.5	90.0	97.2	105.3	114.3	124.4	135.7	148.3
105	79.9	85.8	92.5	100.0	108.4	117.8	128.4	140.0	
110	82.3	88.2	95.0	102.8	111.6	121.4	132.4		

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"									
1000 LBS	60	70	80	90	100	110	120	130	140	150
550	4.43	5.15	5.85	6.52	7.18	7.82	8.46	9.09	9.72	10.36
570	4.73	5.51	6.27	7.02	7.74	8.46	9.17	9.87	10.58	11.29
590	5.04	5.90	6.73	7.55	8.35	9.14	9.92	10.70	11.48	12.27
610	5.39	6.31	7.22	8.11	8.99	9.86	10.72	11.58	12.45	13.31
630	5.76	6.76	7.74	8.71	9.67	10.62	11.57	12.52	13.47	14.43
650	6.15	7.23	8.29	9.34	10.39	11.44	12.48	13.52	14.57	15.61
670	6.57	7.73	8.87	10.02	11.17	12.31	13.45	14.60	15.74	
690	7.01	8.25	9.50	10.74	11.99	13.24	14.49	15.75		
710	7.47	8.81	10.16	11.51	12.87	14.24	15.61			
730	7.96	9.40	10.86	12.33	13.81	15.30				
750	8.46	10.01	11.59	13.20	14.81	16.44				
770	8.98	10.66	12.37	14.12	15.88					
790	9.52	11.34	13.20	15.09						

TABLE 42. AIRCRAFT PERFORMANCE, LANDING (BOEING 757-232 SERIES) PW 2037 ENGINE, 30° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1,000 LBS)

TEMP DEG F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
55	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
60	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
65	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
70	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
75	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
80	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
85	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
90	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	194.2
95	198.0	198.0	198.0	198.0	198.0	198.0	198.0	195.4	188.2
100	198.0	198.0	198.0	198.0	198.0	198.0	196.4	188.8	182.1
105	198.0	198.0	198.0	198.0	198.0	196.8	189.2	182.1	175.8
110	198.0	198.0	198.0	198.0	196.2	188.7	181.6	175.1	169.3

RUNWAY LENGTH (1,000 FEET)

WEIGHT 1000 POUND	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
125	3.34	3.47	3.58	3.68	3.77	3.85	3.94	4.03	4.14
130	3.65	3.77	3.88	3.98	4.07	4.17	4.27	4.38	4.51
135	3.90	4.01	4.11	4.22	4.32	4.43	4.55	4.67	4.81
140	4.10	4.20	4.31	4.41	4.53	4.64	4.77	4.90	5.05
145	4.26	4.36	4.46	4.57	4.69	4.82	4.95	5.09	5.24
150	4.39	4.49	4.59	4.71	4.83	4.96	5.10	5.24	5.40
155	4.50	4.60	4.71	4.82	4.95	5.09	5.23	5.38	5.53
160	4.60	4.70	4.81	4.93	5.06	5.20	5.35	5.50	5.65
165	4.70	4.80	4.91	5.04	5.17	5.32	5.46	5.62	5.77
170	4.80	4.91	5.03	5.15	5.29	5.44	5.59	5.75	5.91
175	4.92	5.03	5.16	5.29	5.43	5.58	5.74	5.90	6.07
180	5.06	5.18	5.31	5.45	5.60	5.75	5.91	6.08	6.26
185	5.23	5.37	5.50	5.65	5.80	5.96	6.13	6.31	6.50
190	5.45	5.59	5.74	5.89	6.05	6.21	6.39	6.58	6.79
195	5.72	5.88	6.03	6.19	6.35	6.52	6.71	6.92	7.16
200	6.04	6.22	6.38	6.55	6.71	6.90	7.10	7.34	7.61

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	MODEL 757-200 RB211 -535C	RB211 -535E4	PW 2037	RB211 -535C	RB211 -535E4
MAXIMUM DESIGN TAKEOFF WEIGHT	POUNDS	220,000	220,000	230,000	240,000	240,000
MAXIMUM DESIGN LANDING WEIGHT	POUNDS	198,000	198,000	198,000	198,000	198,000
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL 1/	POUNDS	143,135	145,835	139,905	141,325	142,465
AVERAGE FUEL CONSUMPTION 2/	POUNDS/MILES	16.5	16.3	16.2	16.5	16.3
TYPICAL MAXIMUM PASSENGER LOAD @ 200 POUNDS/PASSENGER	POUNDS	37,200 MIXED (16 first class, 170 tourist) 43,600 ALL-ECONOMY (218 tourist)				
MAXIMUM STRUCTURAL PAYLOAD	POUNDS	49,910	47,210	53,140	51,720	50,580

1/ Based on 1.25 hours of reserve fuel.
2/ Average of flight manual and U.S. Department of Transportation "Aircraft Operating Cost and Performance Report" Vol. XIX, September 1985.

TABLE 43. AIRCRAFT PERFORMANCE, LANDING (BOEING 757-232 SERIES)
PW 2037 ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1,000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
DEG F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
55	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
60	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
65	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
70	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
75	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
80	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
85	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
90	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
95	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0
100	198.0	198.0	198.0	198.0	198.0	198.0	198.0	198.0	193.4
105	198.0	198.0	198.0	198.0	198.0	198.0	198.0	193.4	187.1
110	198.0	198.0	198.0	198.0	198.0	198.0	193.4	186.6	181.0

RUNWAY LENGTH (METERS)

WEIGHT	AIRPORT ELEVATION (METERS)					
1000 KG	0	500	1000	1500	2000	2500
55	1114	1147	1180	1212	1245	1278
58	1184	1224	1264	1308	1356	1410
61	1243	1287	1334	1386	1445	1515
64	1292	1340	1392	1450	1517	1596
67	1333	1385	1441	1503	1575	1659
70	1369	1423	1482	1548	1622	1707
73	1401	1457	1518	1586	1662	1746
76	1432	1489	1553	1622	1698	1781
79	1464	1522	1587	1657	1733	1814
82	1498	1558	1623	1695	1772	1853
85	1537	1598	1665	1738	1817	1900
88	1583	1645	1714	1789	1871	1960
91	1638	1702	1772	1851	1939	2039

TABLE 44. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 757-232 SERIES) PW 2037 ENGINE, 20° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1,000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
DEG F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	227.5	226.0	224.5	222.5	220.3	218.0	212.5	208.5	203.5
55	227.5	226.0	224.5	222.5	220.3	218.0	212.5	208.5	203.5
60	227.5	226.0	224.5	222.5	220.3	218.0	212.5	208.5	202.3
65	227.5	226.0	224.5	222.5	220.3	218.0	213.5	205.3	198.3
70	227.5	226.0	224.5	222.5	220.3	217.2	209.4	201.6	194.1
75	227.5	226.0	224.5	222.5	218.8	212.1	205.0	197.5	189.8
80	227.5	226.0	224.4	219.1	213.3	207.0	200.2	192.9	185.2
85	227.5	223.9	219.2	213.9	208.1	201.8	195.1	188.0	180.5
90	223.4	219.3	214.4	208.9	202.9	196.4	189.6	182.6	175.5
95	219.0	214.7	209.6	203.8	197.4	190.8	183.9	177.0	170.2
100	214.5	209.9	204.4	198.2	191.6	184.7	177.8	171.0	164.6
105	209.7	204.3	198.3	191.8	185.0	178.1	171.3	164.8	158.7
110	204.1	197.6	191.0	184.3	177.6	171.0	164.6	158.3	152.3

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
DEG F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	43.4	44.8	46.7	49.1	51.8	54.8	57.9	61.2	64.3
55	43.7	44.5	46.1	48.4	51.1	54.1	57.3	60.6	63.7
60	43.9	44.5	46.0	48.1	50.8	53.9	57.3	60.8	64.3
65	44.1	44.8	46.3	48.4	51.1	54.2	57.8	61.6	65.7
70	44.2	45.3	46.9	49.1	51.8	55.0	58.8	63.1	67.9
75	44.4	46.0	47.9	50.2	52.9	56.3	60.3	65.1	70.7
80	44.8	46.9	49.1	51.6	54.5	58.0	62.3	67.5	73.8
85	45.4	48.0	50.6	53.3	56.4	60.2	64.8	70.3	77.1
90	46.3	49.3	52.2	55.3	58.8	62.8	67.7	73.5	80.5
95	47.6	50.7	53.9	57.5	61.4	65.9	71.0	76.9	83.6
100	49.3	52.2	55.8	59.8	64.4	69.4	74.7	80.4	86.5
105	51.5	53.9	57.6	62.3	67.6	73.3	78.9	84.1	88.8
110	54.2	55.7	59.5	64.9	71.1	77.6	83.4	87.9	

RUNWAY LENGTH (1,000 FEET)

WEIGHT	REFERENCE FACTOR "R"								
1000 LBS	60	70	80	90	100	110	120	130	140
140	3.4	3.9	4.4	4.8	5.3	5.8	6.3	7.0	7.8
150	3.9	4.4	5.0	5.6	6.2	6.9	7.6	8.5	9.4
160	4.3	5.0	5.6	6.3	7.0	7.7	8.5	9.4	10.2
170	4.8	5.6	6.3	7.1	7.8	8.6	9.4	10.2	11.0
180	5.4	6.2	7.1	7.9	8.8	9.7	10.6	11.6	12.6
190	6.0	7.0	8.0	9.0	10.1	11.3	12.6	14.0	15.7
200	6.6	7.8	8.9	10.3	11.8	13.6	15.6		
210	7.3	8.6	10.1	11.9	14.0				
220	8.1	9.6	11.4	13.8					
230	8.9	10.6	13.0						
240	9.7	11.8	14.7						

TABLE 45. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 757-232 SERIES)
PW 2037 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1,000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
DEG F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	240.0	240.0	239.5	237.5	235.0	232.5	227.5	222.0	217.0
55	240.0	240.0	239.5	237.5	235.0	232.5	227.5	222.0	217.0
60	240.0	240.0	239.5	237.5	235.0	232.5	227.5	222.0	215.5
65	240.0	240.0	239.5	237.5	235.0	232.5	227.5	219.6	211.2
70	240.0	240.0	239.5	237.5	235.0	232.0	223.9	215.2	206.7
75	240.0	240.0	239.5	237.5	233.6	226.8	218.9	210.5	202.0
80	240.0	240.0	239.5	234.1	228.2	221.3	213.6	205.5	197.1
85	240.0	238.7	234.4	229.0	222.6	215.6	208.0	200.1	192.0
90	238.6	234.5	229.4	223.4	216.7	209.5	202.0	194.4	186.7
95	234.1	229.4	223.8	217.4	210.5	203.2	195.7	188.3	181.1
100	228.8	223.6	217.6	210.9	203.8	196.5	189.1	181.9	175.2
105	223.1	217.4	211.0	204.0	196.7	189.4	182.1	175.3	169.0
110	217.6	210.9	203.9	196.5	189.1	181.8	174.8	168.3	162.4

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
DEG F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	46.6	48.3	49.8	51.3	52.7	54.2	55.8	57.6	59.6
55	46.9	48.3	49.8	51.3	53.1	55.3	57.8	61.0	64.8
60	47.1	48.5	50.0	51.7	53.8	56.4	59.8	63.9	69.0
65	47.4	48.8	50.4	52.3	54.7	57.8	61.7	66.5	72.4
70	47.7	49.2	51.0	53.2	55.9	59.3	63.6	68.9	75.4
75	48.2	49.9	51.9	54.3	57.3	61.1	65.7	71.3	78.0
80	48.8	50.7	53.0	55.7	59.1	63.1	67.9	73.7	80.6
85	49.5	51.8	54.4	57.4	61.1	65.4	70.5	76.4	83.4
90	50.4	53.0	56.0	59.4	63.4	68.0	73.3	79.5	86.5
95	51.6	54.6	57.9	61.7	66.0	71.0	76.6	83.1	90.4
100	53.0	56.4	60.1	64.2	69.0	74.3	80.4	87.3	95.1
105	54.8	58.4	62.5	67.1	72.2	78.1	84.7	92.3	100.9
110	56.8	60.8	65.2	70.2	75.8	82.3	89.7	98.3	108.1

RUNWAY LENGTH (1,000 FEET)

WEIGHT	REFERENCE FACTOR "R"								
1000 LBS	60	70	80	90	100	110	120	130	140
140	3.5	4.0	4.4	4.8	5.3	5.8	6.3	7.0	7.9
150	3.9	4.5	5.0	5.5	6.1	6.6	7.2	7.9	8.6
160	4.4	5.0	5.7	6.3	6.9	7.5	8.1	8.8	9.5
170	4.9	5.6	6.4	7.1	7.8	8.5	9.2	9.8	10.4
180	5.4	6.3	7.2	8.0	8.9	9.7	10.4	11.0	11.6
190	6.0	7.0	8.0	9.0	10.0	10.9	11.7	12.4	12.9
200	6.6	7.8	9.0	10.2	11.3	12.3	13.3	14.0	14.5
210	7.3	8.6	10.0	11.4	12.7	13.9	15.0		
220	8.0	9.5	11.1	12.7	14.3				
230	8.8	10.6	12.4	14.3					
240	9.7	11.7	13.8						

TABLE 46. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 757-232 SERIES) PW 2037 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1,000 LBS)

TEMP DEG F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	240.0	240.0	240.0	240.0	240.0	240.0	238.5	233.0	227.5
55	240.0	240.0	240.0	240.0	240.0	240.0	238.5	233.0	227.5
60	240.0	240.0	240.0	240.0	240.0	240.0	238.5	233.0	226.6
65	240.0	240.0	240.0	240.0	240.0	240.0	238.5	230.2	222.0
70	240.0	240.0	240.0	240.0	240.0	240.0	234.4	225.7	217.1
75	240.0	240.0	240.0	240.0	240.0	237.5	229.3	220.7	212.0
80	240.0	240.0	240.0	240.0	239.2	231.7	223.7	215.3	206.7
85	240.0	240.0	240.0	240.0	233.2	225.7	217.7	209.5	201.1
90	240.0	240.0	240.0	234.0	226.9	219.3	211.4	203.3	195.2
95	240.0	240.0	234.6	227.7	220.3	212.6	204.7	196.8	189.1
100	240.0	235.0	228.3	221.0	213.4	205.5	197.6	190.0	182.8
105	235.3	228.6	221.4	213.8	205.9	198.0	190.4	183.0	176.3
110	228.8	221.3	213.6	205.7	197.9	190.2	182.8	175.9	169.6

REFERENCE FACTOR "R"

TEMP DEG F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	52.1	53.7	55.5	57.6	60.1	63.0	66.4	70.4	75.0
55	52.2	53.6	55.4	57.5	60.1	63.3	67.0	71.3	76.4
60	52.4	53.8	55.6	57.8	60.5	63.9	67.9	72.6	78.0
65	52.6	54.1	56.0	58.4	61.3	64.8	69.1	74.2	80.1
70	53.0	54.6	56.7	59.2	62.4	66.2	70.7	76.2	82.6
75	53.4	55.4	57.7	60.4	63.8	67.9	72.8	78.6	85.5
80	54.1	56.3	58.9	62.0	65.6	70.0	75.3	81.5	88.9
85	55.0	57.5	60.5	63.9	67.9	72.6	78.3	84.9	92.7
90	56.0	59.0	62.4	66.1	70.5	75.7	81.8	88.8	97.1
95	57.4	60.8	64.6	68.8	73.7	79.3	85.8	93.3	102.0
100	59.1	62.9	67.1	71.9	77.3	83.4	90.4	98.4	107.4
105	61.2	65.3	70.0	75.3	81.3	88.1	95.7	104.1	113.5
110	63.6	68.0	73.2	79.2	85.9	93.4	101.6	110.5	120.1

RUNWAY LENGTH (1,000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 60	70	80	90	100	110	120	130	140
140	3.4	4.0	4.5	5.0	5.4	5.8	6.2	6.5	6.6
150	3.9	4.5	5.0	5.6	6.1	6.6	7.1	7.6	8.1
160	4.4	5.0	5.7	6.3	6.9	7.5	8.1	8.7	9.4
170	4.9	5.6	6.4	7.1	7.8	8.5	9.2	9.9	10.6
180	5.4	6.3	7.2	8.1	8.9	9.8	10.5	11.2	11.8
190	6.0	7.0	8.0	9.1	10.1	11.1	11.9	12.6	13.1
200	6.6	7.7	9.0	10.2	11.4	12.5	13.4	14.1	14.6
210	7.3	8.6	10.0	11.4	12.8	14.0	15.0	15.8	
220	8.0	9.5	11.1	12.6	14.1	15.5			
230	8.9	10.5	12.2	13.9	15.6				
240	9.8	11.7	13.5	15.2					

TABLE 47. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 757-232 SERIES) PW 2037 ENGINE, 1° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1,000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
DEG F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	239.5
55	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	239.5
60	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	237.8
65	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	232.8
70	240.0	240.0	240.0	240.0	240.0	240.0	240.0	236.7	227.6
75	240.0	240.0	240.0	240.0	240.0	240.0	239.9	231.0	222.0
80	240.0	240.0	240.0	240.0	240.0	240.0	233.9	225.1	216.3
85	240.0	240.0	240.0	240.0	240.0	236.2	227.7	219.0	210.3
90	240.0	240.0	240.0	240.0	237.9	229.8	221.2	212.6	204.2
95	240.0	240.0	240.0	239.2	231.4	223.1	214.6	206.1	197.9
100	240.0	240.0	239.9	232.4	224.4	216.1	207.7	199.4	191.5
105	240.0	240.0	232.6	224.8	216.8	208.6	200.5	192.6	185.0
110	240.0	232.1	224.2	216.3	208.4	200.6	193.0	185.6	178.5

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
DEG F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	61.1	63.1	64.9	66.6	68.6	71.0	74.3	78.7	84.5
55	61.1	62.7	64.4	66.5	69.1	72.4	76.5	81.6	87.8
60	61.2	62.6	64.5	66.9	70.0	73.9	78.6	84.3	91.1
65	61.4	62.8	64.9	67.7	71.3	75.7	81.0	87.2	94.4
70	61.8	63.4	65.8	68.9	72.9	77.8	83.5	90.2	97.8
75	62.4	64.3	67.1	70.6	74.9	80.2	86.4	93.5	101.6
80	63.2	65.6	68.7	72.6	77.4	83.0	89.6	97.1	105.7
85	64.3	67.2	70.8	75.1	80.2	86.2	93.2	101.3	110.4
90	65.8	69.1	73.2	77.9	83.5	90.0	97.4	106.0	115.8
95	67.6	71.4	75.9	81.1	87.2	94.2	102.2	111.4	121.9
100	69.8	74.0	79.0	84.7	91.3	99.0	107.7	117.7	128.9
105	72.5	77.0	82.3	88.6	96.0	104.4	113.9	124.8	136.9
110	75.7	80.3	86.0	92.9	101.0	110.4	121.0	132.9	146.1

RUNWAY LENGTH (1,000 FEET)

WEIGHT	REFERENCE FACTOR "R"								
1000 LBS	60	70	80	90	100	110	120	130	140
140	3.6	4.0	4.5	4.9	5.4	5.9	6.3	6.7	7.1
150	4.0	4.5	5.1	5.7	6.2	6.8	7.3	7.8	8.3
160	4.4	5.1	5.7	6.4	7.1	7.7	8.3	8.9	9.5
170	4.8	5.6	6.4	7.2	8.0	8.7	9.4	10.0	10.6
180	5.4	6.3	7.2	8.1	8.9	9.8	10.6	11.3	12.0
190	6.0	7.0	8.0	9.0	10.0	11.0	11.9	12.8	13.6
200	6.7	7.8	8.9	10.1	11.3	12.4	13.6	14.7	15.7
210	7.4	8.7	10.0	11.3	12.6	14.0	15.5	16.9	
220	8.2	9.7	11.2	12.7	14.2	15.9			
230	9.0	10.8	12.5	14.2	16.0				
240	9.9	12.1	14.0	16.0					

TABLE 48. AIRCRAFT PERFORMANCE, LANDING (DC-8-61)
JT3D-3B ENGINE, FULL FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0
55	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0
60	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0
65	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0
70	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0
75	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0
80	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0
85	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0
90	240.0	240.0	240.0	240.0	240.0	240.0	240.0	240.0	235.5
95	240.0	240.0	240.0	240.0	240.0	240.0	240.0	238.9	230.2
100	240.0	240.0	240.0	240.0	240.0	240.0	240.0	233.0	224.5
105	240.0	240.0	240.0	240.0	240.0	240.0	235.7	226.9	218.6
110	240.0	240.0	240.0	240.0	240.0	238.1	229.2	220.7	212.5

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
140	4.52	4.62	4.73	4.85	4.99	5.16	5.38	5.65	5.98
150	4.77	4.88	4.99	5.12	5.28	5.46	5.69	5.96	6.29
160	5.02	5.13	5.25	5.40	5.57	5.77	6.00	6.28	6.61
170	5.27	5.39	5.52	5.67	5.86	6.07	6.32	6.61	6.94
180	5.52	5.64	5.79	5.95	6.15	6.37	6.63	6.93	7.27
190	5.77	5.90	6.05	6.23	6.44	6.68	6.95	7.26	7.61
200	6.03	6.16	6.32	6.51	6.73	6.98	7.27	7.59	7.96
210	6.28	6.43	6.59	6.79	7.02	7.28	7.58	7.92	8.31
220	6.54	6.69	6.87	7.07	7.31	7.58	7.90	8.25	8.66
230	6.80	6.95	7.14	7.35	7.60	7.88	8.21	8.58	9.01
240	7.05	7.22	7.41	7.63	7.89	8.18	8.52	8.91	9.36
250	7.31	7.49	7.69	7.91	8.17	8.47	8.82	9.23	9.70
260	7.56	7.76	7.96	8.19	8.45	8.76	9.12	9.55	10.05

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL	LBS.	174,100
AVERAGE FUEL CONSUMPTION	LBS./MILE	29
TYPICAL MAXIMUM PASSENGER LOAD @200 LBS./PASSENGER	LBS.	51,800
MAXIMUM STRUCTURAL PAYLOAD	LBS.	71,877

TABLE 49. AIRCRAFT PERFORMANCE, TAKEOFF (DC-8-61) JT3D-3B ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	325.0	322.5	311.1	299.9	289.1	278.6	268.3	258.3	248.5
55	325.0	317.2	306.1	295.2	284.6	274.2	264.1	254.3	244.8
60	325.0	313.5	302.2	291.3	280.7	270.5	260.6	250.9	241.5
65	325.0	313.5	302.2	291.3	280.7	270.5	260.6	250.9	241.5
70	325.0	313.5	302.2	291.3	280.7	270.5	260.6	250.9	241.5
75	325.0	313.5	302.2	291.3	280.7	270.5	260.6	250.9	241.5
80	325.0	313.5	302.2	291.3	280.7	270.5	260.6	250.9	241.5
85	323.5	311.9	300.7	290.0	279.5	269.4	259.6	249.9	240.5
90	316.5	305.5	294.8	284.4	274.2	264.3	254.6	245.0	235.5
95	310.1	299.4	289.0	278.9	268.9	259.2	249.6	240.2	230.9
100	303.5	293.0	282.8	272.9	263.1	253.6	244.3	235.2	226.2
105	295.9	285.6	275.7	265.9	256.4	247.1	238.1	229.3	220.6
110	286.5	276.6	266.9	257.5	248.3	239.3	230.5	221.9	213.5

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	47.2	49.5	52.2	55.6	59.4	63.6	68.3	73.2	78.5
55	47.7	50.3	53.3	56.8	60.7	65.1	69.9	75.0	80.6
60	47.9	50.9	54.3	58.0	62.1	66.5	71.4	76.7	82.4
65	48.3	51.4	54.8	58.5	62.6	67.1	72.0	77.3	83.0
70	48.8	51.8	55.3	59.1	63.2	67.7	72.7	78.0	83.8
75	49.2	52.3	55.7	59.5	63.7	68.3	73.2	78.6	84.5
80	49.6	52.8	56.2	60.0	64.1	68.7	73.8	79.3	85.2
85	50.2	53.4	56.9	60.8	65.0	69.6	74.6	80.2	86.2
90	51.2	54.7	58.4	62.4	66.8	71.5	76.7	82.5	88.8
95	52.6	56.2	60.1	64.2	68.7	73.7	79.1	85.1	91.7
100	54.3	58.0	61.9	66.2	70.9	76.1	81.7	88.0	95.0
105	56.0	59.8	63.9	68.3	73.2	78.6	84.6	91.2	98.5
110	57.7	61.6	65.9	70.5	75.7	81.4	87.7	94.6	102.3

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 40	50	60	70	80	90	100	110
180	3.00	3.61	4.26	4.90	5.53	6.15	6.76	7.35
190	3.19	3.93	4.65	5.37	6.08	6.79	7.49	8.19
200	3.44	4.26	5.07	5.88	6.68	7.48	8.27	9.07
210	3.71	4.62	5.52	6.42	7.32	8.21	9.11	10.01
220	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00
230	4.31	5.41	6.51	7.62	8.73	9.84	10.95	12.05
240	4.64	5.83	7.05	8.28	9.51	10.74	11.96	
250	4.99	6.29	7.62	8.98	10.34	11.70		
260	5.36	6.77	8.23	9.73	11.23			
270	5.75	7.27	8.87	10.52	12.18			
280	6.16	7.80	9.55	11.36				
290	6.59	8.36	10.27	12.25				
300	7.03	8.94	11.02					
310	7.50	9.56	11.82					
320	7.98	10.20						
330	8.48	10.86						

TABLE 50. AIRCRAFT PERFORMANCE, TAKEOFF (DC-8-61)
JT3D-3B ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	325.0	325.0	325.0	324.8	312.4	300.9	289.9	279.2	268.5
55	325.0	325.0	325.0	319.2	307.5	296.2	285.3	274.7	264.5
60	325.0	325.0	325.0	314.9	303.4	292.3	281.5	271.0	260.8
65	325.0	325.0	325.0	314.9	303.4	292.3	281.5	271.0	260.8
70	325.0	325.0	325.0	314.9	303.4	292.3	281.5	271.0	260.8
75	325.0	325.0	325.0	314.9	303.4	292.3	281.5	271.0	260.8
80	325.0	325.0	325.0	314.9	303.4	292.3	281.5	271.0	260.8
85	325.0	325.0	325.0	313.6	302.1	291.1	280.3	269.9	259.7
90	325.0	325.0	318.3	306.6	295.5	284.7	274.3	264.2	254.3
95	325.0	322.5	310.6	299.2	288.4	278.0	267.9	258.1	248.4
100	325.0	314.3	302.8	291.8	281.3	271.2	261.4	251.9	242.5
105	318.4	306.6	295.5	284.8	274.6	264.8	255.2	245.9	236.7
110	311.2	299.9	289.0	278.6	268.6	258.9	249.5	240.3	231.2

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	49.7	51.7	55.2	58.6	62.5	66.8	71.6	76.9	82.6
55	50.2	52.7	56.3	59.8	63.8	68.3	73.3	78.7	84.7
60	50.6	53.7	57.2	61.0	65.3	69.9	75.0	80.5	86.4
65	51.0	54.1	57.6	61.5	65.8	70.5	75.6	81.1	87.1
70	51.4	54.5	58.0	62.0	66.3	71.1	76.3	81.8	87.8
75	51.8	54.9	58.5	62.4	66.8	71.7	76.9	82.5	88.5
80	52.1	55.3	58.9	62.9	67.4	72.2	77.5	83.2	89.2
85	52.6	55.9	59.7	63.7	68.2	73.1	78.4	84.2	90.5
90	53.8	57.5	61.3	65.6	70.2	75.2	80.7	86.7	93.2
95	55.5	59.2	63.2	67.6	72.3	77.5	83.2	89.5	96.5
100	57.2	61.1	65.2	69.7	74.6	80.0	86.0	92.6	100.0
105	59.0	62.9	67.2	71.8	77.0	82.6	88.9	95.8	103.5
110	60.4	64.6	69.1	74.0	79.3	85.2	91.7	98.9	106.8

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"							
1000 LBS	40	50	60	70	80	90	100	110
180	4.00	4.00	4.27	4.91	5.55	6.18	6.81	7.42
190	4.00	4.00	4.67	5.38	6.10	6.80	7.51	8.22
200	4.00	4.28	5.09	5.89	6.68	7.48	8.28	9.08
210	4.00	4.63	5.53	6.43	7.32	8.21	9.11	10.02
220	4.00	5.00	6.00	7.00	7.99	8.99	10.00	11.02
230	4.29	5.39	6.50	7.61	8.72	9.83	10.95	12.08
240	4.61	5.81	7.03	8.26	9.49	10.73	11.96	13.19
250	4.95	6.25	7.58	8.94	10.31	11.68	13.03	
260	5.32	6.71	8.17	9.67	11.19	12.69	14.16	
270	5.70	7.20	8.80	10.45	12.11	13.75		
280	6.10	7.72	9.46	11.27	13.09			
290	6.52	8.26	10.15	12.13	14.12			
300	6.96	8.83	10.89	13.05				
310	7.41	9.43	11.67	14.01				
320	7.89	10.06	12.49					
330	8.38	10.72	13.35					

TABLE 51. AIRCRAFT PERFORMANCE, LANDING (DC-9-30 SERIES)
JT8D-9 ENGINE, FULL FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	99.0	99.0	99.0	99.0	99.0	95.5	91.9	88.5	85.2
55	99.0	99.0	99.0	99.0	97.3	93.7	90.3	86.9	83.7
60	99.0	99.0	99.0	99.0	96.6	93.0	89.6	86.3	83.1
65	99.0	99.0	99.0	99.0	96.6	93.0	89.6	86.3	83.1
70	99.0	99.0	99.0	99.0	96.6	93.0	89.6	86.3	83.1
75	99.0	99.0	99.0	99.0	96.6	93.0	89.6	86.3	83.1
80	99.0	99.0	99.0	99.0	96.6	93.0	89.6	86.3	83.1
85	99.0	99.0	99.0	98.9	95.3	91.8	88.5	85.2	82.0
90	99.0	99.0	99.0	96.8	93.3	89.9	86.6	83.3	80.2
95	99.0	99.0	98.2	94.7	91.2	87.9	84.6	81.5	78.4
100	99.0	99.0	96.0	92.6	89.2	85.9	82.7	79.6	76.6
105	99.0	97.4	93.9	90.5	87.2	84.0	80.8	77.8	74.9
110	98.6	95.1	91.7	88.4	85.1	82.0	78.9	76.0	73.2

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
60	3.59	3.66	3.74	3.82	3.92	4.01	4.11	4.21	4.31
65	3.80	3.88	3.98	4.07	4.17	4.28	4.38	4.49	4.60
70	4.02	4.12	4.22	4.32	4.43	4.54	4.65	4.77	4.89
75	4.24	4.35	4.46	4.58	4.69	4.81	4.93	5.05	5.18
80	4.47	4.59	4.71	4.83	4.95	5.07	5.20	5.33	5.47
85	4.71	4.83	4.96	5.08	5.21	5.34	5.47	5.61	5.76
90	4.94	5.07	5.20	5.33	5.46	5.60	5.74	5.89	6.05
95	5.17	5.31	5.45	5.58	5.72	5.86	6.01	6.17	6.34
100	5.40	5.54	5.68	5.83	5.97	6.13	6.29	6.45	6.63

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	
MAXIMUM TAKEOFF WEIGHT	LBS.	108,000
MAXIMUM LANDING WEIGHT	LBS.	99,000
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL	LBS.	64,845 1/ 69,640 2/
AVERAGE FUEL CONSUMPTION	LBS./MILE	17
TYPICAL MAXIMUM PASSENGER LOAD @ 200 LBS./PASSENGER	LBS.	23,000
MAXIMUM STRUCTURAL PAYLOAD	LBS.	30,145

1/ Based on 1.25 hours of reserve fuel.
2/ Based on 2.00 hours of reserve fuel.

TABLE 52. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-30 SERIES)
JT8D-9 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	103.8	102.8	99.3	95.8	92.2	88.8	85.5	82.3	79.3
55	103.8	101.4	97.8	94.3	90.8	87.4	84.2	81.0	78.1
60	103.8	100.2	96.6	93.1	89.7	86.4	83.1	80.0	77.1
65	103.8	100.2	96.6	93.1	89.7	86.4	83.1	80.0	77.1
70	103.8	100.2	96.6	93.1	89.7	86.4	83.1	80.0	77.1
75	103.8	100.2	96.6	93.1	89.7	86.4	83.1	80.0	77.1
80	103.8	100.2	96.6	93.1	89.7	86.4	83.1	80.0	77.1
85	103.3	99.8	96.2	92.7	89.3	86.0	82.8	79.7	76.8
90	101.1	97.7	94.2	90.8	87.4	84.1	81.0	78.0	75.1
95	99.0	95.6	92.2	88.8	85.5	82.3	79.2	76.3	73.5
100	96.9	93.5	90.2	86.9	83.7	80.5	77.5	74.6	71.9
105	94.8	91.5	88.2	85.0	81.8	78.8	75.9	73.0	70.3
110	92.7	89.4	86.2	83.1	80.1	77.1	74.2	71.4	68.8

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	30.1	31.5	33.1	35.1	37.4	40.0	42.9	46.0	49.2
55	30.3	32.0	33.8	36.0	38.4	41.0	43.9	47.0	50.4
60	30.6	32.4	34.5	36.7	39.2	41.8	44.8	47.9	51.3
65	30.9	32.7	34.7	37.0	39.6	42.3	45.2	48.3	51.5
70	31.2	32.9	35.0	37.3	39.9	42.7	45.7	48.8	51.9
75	31.5	33.2	35.3	37.6	40.3	43.1	46.1	49.2	52.4
80	31.7	33.5	35.6	38.0	40.6	43.4	46.4	49.6	53.0
85	31.9	33.9	36.1	38.5	41.2	44.0	47.1	50.4	53.9
90	32.6	34.7	37.0	39.5	42.2	45.1	48.2	51.6	55.2
95	33.4	35.6	37.9	40.5	43.3	46.3	49.5	53.0	56.8
100	34.3	36.5	39.0	41.6	44.4	47.5	50.8	54.4	58.4
105	35.2	37.5	40.0	42.7	45.6	48.8	52.2	56.0	60.2
110	36.0	38.5	41.1	43.8	46.8	50.1	53.7	57.7	62.2

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 30	35	40	45	50	55	60	65
70	2.87	3.33	3.80	4.27	4.74	5.21	5.68	6.15
75	3.20	3.76	4.31	4.87	5.42	5.98	6.53	7.09
80	3.57	4.22	4.86	5.51	6.16	6.82	7.50	
85	3.97	4.72	5.46	6.20	6.96	7.75		
90	4.41	5.25	6.09	6.94	7.82			
95	4.87	5.81	6.75	7.71				
100	5.36	6.41	7.44					
105	5.88	7.02	8.16					

TABLE 53. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-30 SERIES)
JT8D-9 ENGINE, 15° FLAPS, 2% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	104.4	103.2	99.8	96.2	92.7	89.3	85.9	82.7	79.7
55	104.4	101.9	98.3	94.8	91.3	87.9	84.6	81.4	78.4
60	104.4	100.7	97.1	93.6	90.2	86.8	83.6	80.4	77.5
65	104.4	100.7	97.1	93.6	90.2	86.8	83.6	80.4	77.5
70	104.4	100.7	97.1	93.6	90.2	86.8	83.6	80.4	77.5
75	104.4	100.7	97.1	93.6	90.2	86.8	83.6	80.4	77.5
80	104.4	100.7	97.1	93.6	90.2	86.8	83.6	80.4	77.5
85	103.6	100.0	96.4	92.9	89.5	86.1	82.9	79.8	76.8
90	101.7	98.0	94.5	91.1	87.7	84.5	81.3	78.3	75.3
95	99.6	96.1	92.6	89.2	86.0	82.8	79.7	76.7	73.7
100	97.6	94.1	90.7	87.4	84.2	81.1	78.1	75.1	72.2
105	95.4	92.0	88.7	85.5	82.4	79.3	76.4	73.5	70.7
110	93.2	90.0	86.8	83.6	80.6	77.6	74.7	71.9	69.2

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	32.0	33.2	35.4	37.7	40.1	42.8	45.9	49.3	53.1
55	32.4	33.9	36.1	38.5	41.0	43.9	47.0	50.5	54.3
60	32.5	34.5	36.7	39.1	41.8	44.8	48.0	51.5	55.4
65	32.7	34.7	37.0	39.4	42.2	45.1	48.4	52.0	55.9
70	32.9	35.0	37.3	39.8	42.5	45.5	48.8	52.4	56.3
75	33.2	35.3	37.6	40.1	42.9	45.9	49.2	52.9	56.8
80	33.5	35.6	38.0	40.5	43.3	46.3	49.7	53.3	57.3
85	33.9	36.1	38.5	41.0	43.9	47.0	50.3	54.0	58.1
90	34.9	37.1	39.5	42.1	45.0	48.2	51.7	55.6	59.8
95	35.7	38.0	40.5	43.2	46.2	49.5	53.2	57.1	61.5
100	36.6	39.0	41.6	44.4	47.5	50.9	54.7	58.8	63.3
105	37.5	40.0	42.7	45.7	48.9	52.4	56.3	60.6	65.3
110	38.6	41.2	44.0	47.0	50.3	54.0	58.0	62.6	67.6

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"								
1000 LBS	30	35	40	45	50	55	60	65	70
70	2.81	3.26	3.71	4.16	4.61	5.05	5.49	5.93	6.35
75	3.13	3.67	4.21	4.75	5.28	5.81	6.34	6.87	7.38
80	3.49	4.12	4.74	5.36	5.98	6.61	7.23	7.85	8.48
85	3.88	4.60	5.31	6.02	6.73	7.44	8.17		
90	4.31	5.11	5.91	6.71	7.52	8.34			
95	4.76	5.66	6.56	7.46	8.38				
100	5.24	6.25	7.25	8.26					
105	5.76	6.87	8.00						

TABLE 54. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-30 SERIES)
JT8D-9 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	108.0	108.0	106.5	102.6	98.9	95.3	91.7	88.3	84.9
55	108.0	108.0	104.8	101.1	97.4	93.8	90.3	86.9	83.6
60	108.0	107.4	103.6	99.8	96.2	92.7	89.2	85.8	82.5
65	108.0	107.4	103.5	99.8	96.2	92.6	89.2	85.8	82.5
70	108.0	107.4	103.5	99.8	96.1	92.6	89.2	85.8	82.5
75	108.0	107.4	103.5	99.8	96.1	92.6	89.1	85.8	82.5
80	108.0	107.4	103.5	99.7	96.1	92.5	89.1	85.8	82.5
85	108.0	106.6	102.7	99.0	95.4	91.8	88.4	85.1	81.9
90	108.0	104.5	100.8	97.1	93.5	90.1	86.7	83.4	80.3
95	106.2	102.5	98.8	95.1	91.6	88.2	84.9	81.7	78.6
100	104.1	100.3	96.7	93.2	89.7	86.4	83.2	80.0	77.0
105	101.8	98.2	94.6	91.2	87.8	84.5	81.4	78.3	75.3
110	99.5	96.0	92.5	89.1	85.8	82.6	79.6	76.6	73.7

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	37.5	39.1	41.2	43.7	46.6	49.9	53.5	57.3	61.3
55	37.9	39.8	42.1	44.7	47.7	51.0	54.6	58.5	62.7
60	38.2	40.4	42.8	45.6	48.6	52.0	55.6	59.6	63.9
65	38.4	40.6	43.1	46.0	49.1	52.5	56.2	60.2	64.5
70	38.6	40.9	43.5	46.4	49.5	52.9	56.7	60.7	65.1
75	38.8	41.3	43.9	46.8	50.0	53.4	57.2	61.3	65.7
80	39.0	41.6	44.4	47.3	50.5	53.9	57.7	61.8	66.3
85	39.6	42.2	45.0	48.0	51.2	54.7	58.6	62.8	67.4
90	40.6	43.2	46.0	49.1	52.4	56.1	60.1	64.5	69.3
95	41.7	44.3	47.1	50.3	53.8	57.6	61.8	66.3	71.2
100	42.7	45.3	48.3	51.6	55.3	59.2	63.5	68.2	73.3
105	43.7	46.5	49.6	53.1	56.8	60.9	65.4	70.3	75.5
110	44.9	47.8	51.0	54.5	58.5	62.7	67.4	72.4	77.8

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"									
1000 LBS	35	40	45	50	55	60	65	70	75	80
70	2.99	3.39	3.79	4.19	4.60	5.02	5.43	5.83	6.24	6.63
75	3.35	3.81	4.28	4.75	5.23	5.70	6.18	6.65	7.12	7.58
80	3.74	4.27	4.82	5.37	5.92	6.47	7.03	7.58	8.12	8.66
85	4.16	4.77	5.39	6.03	6.67	7.32	7.96	8.61	9.24	
90	4.60	5.29	6.01	6.74	7.48	8.23	8.98	9.73		
95	5.06	5.85	6.66	7.49	8.35	9.21				
100	5.55	6.43	7.34	8.29	9.26					
105	6.07	7.03	8.05	9.11						
110	6.61	7.66	8.78							

TABLE 55. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-30 SERIES)
JT8D-9 ENGINE, 5° FLAPS, 5% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	108.0	108.0	108.0	104.5	100.7	97.0	93.4	90.0	86.7
55	108.0	108.0	106.8	103.0	99.2	95.5	92.0	88.6	85.3
60	108.0	108.0	105.5	101.7	97.9	94.3	90.8	87.5	84.2
65	108.0	108.0	105.5	101.6	97.9	94.3	90.8	87.5	84.2
70	108.0	108.0	105.5	101.6	97.9	94.3	90.8	87.5	84.2
75	108.0	108.0	105.4	101.6	97.9	94.3	90.8	87.5	84.2
80	108.0	108.0	105.4	101.5	97.8	94.2	90.8	87.4	84.2
85	108.0	108.0	104.5	100.8	97.1	93.5	90.1	86.7	83.6
90	108.0	106.1	102.4	98.8	95.2	91.7	88.3	85.0	81.9
95	107.9	104.1	100.4	96.8	93.3	89.9	86.5	83.3	80.2
100	105.7	101.9	98.3	94.7	91.3	88.0	84.7	81.6	78.5
105	103.5	99.8	96.2	92.7	89.3	86.1	82.9	79.8	76.7
110	101.2	97.6	94.0	90.6	87.3	84.1	81.0	78.0	75.0

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	44.1	45.6	48.6	51.8	55.3	59.2	63.5	68.3	73.6
55	44.5	46.6	49.6	52.9	56.5	60.6	65.1	70.1	75.6
60	44.8	47.5	50.5	53.8	57.6	61.8	66.5	71.6	77.3
65	45.1	47.9	51.0	54.4	58.2	62.4	67.1	72.2	77.9
70	45.5	48.3	51.4	54.9	58.7	63.0	67.7	72.9	78.6
75	45.9	48.7	51.9	55.4	59.3	63.6	68.3	73.6	79.3
80	46.3	49.1	52.3	55.9	59.8	64.2	69.0	74.3	80.0
85	46.8	49.7	52.9	56.5	60.6	65.0	69.9	75.3	81.1
90	47.7	50.8	54.2	58.0	62.2	66.8	71.9	77.4	83.5
95	48.8	52.1	55.7	59.6	64.0	68.8	74.0	79.8	86.0
100	50.1	53.5	57.3	61.4	65.9	70.9	76.3	82.2	88.7
105	51.6	55.1	59.0	63.2	67.9	73.1	78.7	84.8	91.5
110	53.1	56.7	60.8	65.2	70.1	75.4	81.2	87.6	94.4

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 40	50	60	70	80	90	100
70	3.18	3.94	4.69	5.43	6.16	6.87	7.58
75	3.60	4.46	5.32	6.17	7.03	7.88	8.73
80	4.01	5.00	6.00	7.00	8.00	9.00	10.02
85	4.43	5.59	6.74	7.89	9.04	10.21	11.40
90	4.87	6.21	7.53	8.84	10.16	11.49	
95	5.33	6.89	8.39	9.85	11.32		
100	5.84	7.61	9.29	10.91			
105	6.39	8.40	10.26	12.01			
110	6.99	9.25	11.28				

TABLE 56. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-30 SERIES)
JT8D-9 ENGINE, 0° FLAPS, 6% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	108.0	108.0	108.0	106.3	102.5	98.8	95.2	91.7	88.1
55	108.0	108.0	108.0	104.8	101.0	97.3	93.7	90.2	86.8
60	108.0	108.0	107.3	103.5	99.7	96.0	92.5	89.0	85.7
65	108.0	108.0	107.3	103.5	99.7	96.0	92.4	89.0	85.7
70	108.0	108.0	107.3	103.4	99.7	96.0	92.4	89.0	85.6
75	108.0	108.0	107.3	103.4	99.6	96.0	92.4	88.9	85.6
80	108.0	108.0	107.2	103.4	99.6	95.9	92.4	88.9	85.5
85	108.0	108.0	106.4	102.5	98.8	95.2	91.6	88.2	84.8
90	108.0	108.0	104.3	100.5	96.8	93.3	89.8	86.5	83.2
95	107.8	106.0	102.2	98.4	94.9	91.4	88.0	84.7	81.5
100	105.8	103.8	100.0	96.4	92.9	89.5	86.2	82.9	79.8
105	104.3	101.5	97.8	94.3	90.9	87.5	84.3	81.1	78.1
110	102.0	99.2	95.7	92.2	88.8	85.6	82.4	79.3	76.3

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	47.8	50.0	52.9	56.4	60.5	65.0	70.0	75.4	81.0
55	48.3	50.9	54.1	57.7	61.9	66.6	71.6	77.1	83.0
60	48.7	51.7	55.1	58.9	63.2	67.9	73.1	78.7	84.8
65	49.0	52.1	55.5	59.4	63.7	68.5	73.8	79.5	85.7
70	49.4	52.5	56.0	59.9	64.3	69.2	74.5	80.2	86.5
75	49.8	53.0	56.5	60.5	64.9	69.8	75.2	81.0	87.3
80	50.3	53.5	57.1	61.1	65.6	70.5	75.9	81.7	88.1
85	51.0	54.2	57.8	61.9	66.4	71.4	76.9	82.8	89.3
90	52.2	55.6	59.3	63.6	68.3	73.5	79.2	85.4	92.1
95	53.5	57.0	61.0	65.4	70.3	75.7	81.6	87.9	94.9
100	54.8	58.6	62.7	67.4	72.4	78.0	84.1	90.6	97.7
105	56.3	60.2	64.6	69.4	74.7	80.5	86.7	93.5	100.8
110	57.9	62.0	66.6	71.6	77.1	83.1	89.6	96.6	104.2

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 40	50	60	70	80	90	100	110
70	3.17	3.93	4.68	5.42	6.15	6.86	7.56	8.24
75	3.58	4.46	5.32	6.18	7.03	7.88	8.74	9.61
80	4.01	5.01	6.00	6.99	7.98	8.97	9.97	10.98
85	4.48	5.60	6.73	7.86	9.00	10.13	11.27	12.41
90	4.97	6.23	7.51	8.81	10.11	11.40	12.69	
95	5.50	6.90	8.35	9.83	11.32	12.80		
100	6.06	7.61	9.25	10.95	12.66			
105	6.66	8.36	10.21	12.16				
110	7.28	9.15	11.24					

TABLE 57. AIRCRAFT PERFORMANCE, LANDING (DC-9-50 SERIES)
JT8D-17 ENGINE, FULL FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	110.0	110.0	110.0	110.0	110.0	107.0	103.0	99.1	95.5
55	110.0	110.0	110.0	110.0	110.0	107.0	103.0	99.1	95.5
60	110.0	110.0	110.0	110.0	110.0	106.4	102.4	98.5	94.9
65	110.0	110.0	110.0	110.0	109.5	105.4	101.4	97.5	94.0
70	110.0	110.0	110.0	110.0	108.5	104.4	100.4	96.5	93.1
75	110.0	110.0	110.0	110.0	107.4	103.3	99.3	95.6	92.1
80	110.0	110.0	110.0	110.0	106.2	102.2	98.3	94.6	91.1
85	110.0	110.0	110.0	108.4	104.4	100.5	96.8	93.2	89.8
90	110.0	110.0	109.7	105.8	102.0	98.2	94.6	91.1	87.7
95	110.0	110.0	107.2	103.4	99.7	96.0	92.5	89.0	85.5
100	110.0	108.8	104.9	101.2	97.5	93.9	90.3	86.8	83.2
105	110.0	106.7	102.8	99.1	95.5	91.9	88.2	84.5	80.7
110	108.5	104.7	100.9	97.3	93.6	89.9	86.1	82.1	78.0

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
70	3.85	3.96	4.06	4.17	4.27	4.37	4.48	4.60	4.72
75	4.07	4.18	4.29	4.39	4.51	4.62	4.74	4.87	5.00
80	4.29	4.40	4.51	4.62	4.75	4.87	5.00	5.14	5.27
85	4.51	4.62	4.73	4.86	4.99	5.12	5.26	5.40	5.55
90	4.73	4.84	4.96	5.09	5.23	5.37	5.52	5.67	5.82
95	4.96	5.07	5.20	5.33	5.47	5.62	5.77	5.93	6.09
100	5.18	5.30	5.43	5.57	5.72	5.87	6.03	6.19	6.36
105	5.41	5.54	5.67	5.81	5.96	6.12	6.28	6.45	6.63
110	5.64	5.77	5.91	6.06	6.21	6.36	6.53	6.71	6.89

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	
MAXIMUM TAKEOFF WEIGHT	LBS.	121,000
MAXIMUM LANDING WEIGHT	LBS.	110,000
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL	LBS.	73,109 1/ 78,170 2/
AVERAGE FUEL CONSUMPTION	LBS./MILE	19
TYPICAL MAXIMUM PASSENGER LOAD @ 200 LBS./PASSENGER	LBS.	27,000
MAXIMUM STRUCTURAL PAYLOAD	LBS.	33,825

1/ Based on 1.25 hours of reserve fuel.
2/ Based on 2.00 hours of reserve fuel.

TABLE 58. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-50 SERIES)
JT8D-17 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	114.0	112.7	109.5	105.5	101.7	98.0	94.5	91.0	87.5
55	114.0	117.7	109.5	105.5	101.7	98.0	94.5	91.0	87.5
60	114.0	111.7	109.5	105.5	101.7	98.0	94.5	91.0	87.5
65	114.0	111.7	109.5	105.5	101.7	98.0	94.5	91.0	87.5
70	114.0	111.7	108.6	104.6	100.9	97.3	93.7	90.3	86.8
75	114.0	111.7	107.5	103.6	99.9	96.3	92.8	89.4	86.0
80	114.0	110.0	106.5	102.7	99.1	95.5	92.0	88.5	85.2
85	112.4	108.9	105.3	101.7	98.0	94.5	90.9	87.5	84.2
90	110.4	106.9	103.3	99.7	96.1	92.6	89.2	85.8	82.6
95	108.5	104.9	101.3	97.7	94.2	90.7	87.4	84.1	81.0
100	106.6	102.9	99.3	95.7	92.2	88.9	85.6	82.5	79.4
105	104.7	100.9	97.2	93.7	90.3	87.0	83.9	80.8	77.8
110	102.7	98.9	95.2	91.7	88.4	85.2	82.1	79.1	76.2

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	40.5	42.6	45.0	47.8	50.9	54.5	58.5	63.2	68.5
55	40.8	43.0	45.4	48.2	51.5	55.1	59.2	63.9	69.1
60	41.1	43.3	45.8	48.7	52.0	55.7	59.9	64.6	69.7
65	41.4	43.6	46.2	49.2	52.6	56.4	60.6	65.3	70.4
70	41.8	44.1	46.8	49.9	53.4	57.3	61.7	66.4	71.6
75	42.3	44.6	47.4	50.6	54.3	58.3	62.8	67.7	73.0
80	42.7	45.1	48.0	51.3	55.1	59.4	64.0	69.0	74.4
85	43.2	45.7	48.7	52.2	56.2	60.6	65.4	70.5	76.1
90	44.3	47.0	50.2	53.8	57.9	62.5	67.4	72.9	78.7
95	45.4	48.3	51.6	55.4	59.6	64.3	69.5	75.2	31.4
100	46.5	49.6	53.1	57.0	61.4	66.2	71.6	77.6	34.1
105	47.5	50.9	54.6	58.6	63.1	68.1	73.7	79.9	86.8
110	48.6	52.2	56.0	60.2	64.9	70.0	75.8	82.3	89.5

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 40	50	60	70	80	90	100
70	2.68	3.27	3.82	4.35	4.87	5.39	5.91
75	2.98	3.66	4.29	4.92	5.54	6.19	6.88
80	3.30	4.07	4.81	5.54	6.28	7.05	7.87
85	3.64	4.52	5.37	6.23	7.09	7.98	8.90
90	4.00	5.00	6.00	7.00	8.00	9.00	9.99
95	4.39	5.52	6.68	7.85	9.00	10.12	11.17
100	4.81	6.08	7.43	8.79	10.12	11.36	12.46
105	5.26	6.69	8.25	9.83	11.36		
110	5.75	7.36	9.15	10.99			
115	6.28	8.08	10.13	12.25			
120	6.86	8.86	11.20				
125	7.49	9.71	12.37				

TABLE 59. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-50 SERIES)
JT8D-17 ENGINE, 15° FLAPS, 2% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	115.0	113.7	110.5	106.5	102.7	99.0	95.5	92.0	88.4
55	115.0	112.7	110.5	106.5	102.7	99.0	95.5	92.0	88.4
60	115.0	112.7	110.5	106.5	102.7	99.0	95.5	92.0	88.4
65	115.0	112.7	110.5	106.5	102.7	99.0	95.5	92.0	88.4
70	115.0	112.7	109.6	105.6	101.9	98.3	94.7	91.2	87.7
75	115.0	112.7	108.5	104.6	100.9	97.3	93.8	90.3	86.8
80	115.0	111.0	107.5	103.7	100.1	96.5	92.9	89.4	85.9
85	114.6	110.5	106.5	102.7	99.0	95.4	91.9	88.4	84.9
90	112.4	108.4	104.4	100.7	97.0	93.5	90.1	86.7	83.3
95	110.3	106.2	102.4	98.7	95.1	91.6	88.2	84.9	81.7
100	108.1	104.1	100.3	96.7	93.1	89.7	86.4	83.2	80.1
105	105.9	102.0	98.3	94.7	91.2	87.8	84.6	81.5	78.4
110	103.7	99.9	96.2	92.7	89.3	86.0	82.8	79.7	76.8

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	42.0	44.3	46.8	49.7	53.0	56.8	61.2	66.4	72.5
55	42.3	44.8	47.4	50.3	53.6	57.4	61.8	66.9	72.8
60	42.6	45.2	48.0	51.0	54.3	58.1	62.4	67.4	73.1
65	42.9	45.7	48.6	51.6	55.0	58.8	63.0	67.9	73.4
70	43.3	46.1	49.1	52.3	55.8	59.7	64.1	69.0	74.5
75	43.7	46.5	49.6	53.0	56.7	60.8	65.3	70.3	75.8
80	44.2	47.0	50.1	53.7	57.6	61.9	66.5	71.6	77.0
85	44.7	47.6	50.8	54.5	58.6	63.1	67.9	73.1	78.6
90	45.9	49.0	52.4	56.2	60.4	65.0	70.1	75.6	81.7
95	47.1	50.3	53.9	57.8	62.1	66.9	72.2	78.2	84.8
100	48.3	51.7	55.4	59.4	63.9	68.8	74.4	80.7	87.9
105	49.4	53.1	56.9	61.1	65.6	70.7	76.5	83.2	90.9
110	50.6	54.5	58.5	62.7	67.3	72.6	78.7	85.8	94.0

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 40	50	60	70	80	90	100
70	2.80	3.26	3.81	4.40	4.96	5.44	5.78
75	3.04	3.65	4.29	4.95	5.58	6.14	6.61
80	3.33	4.06	4.81	5.57	6.30	6.99	7.61
85	3.66	4.51	5.38	6.26	7.12	7.96	8.74
90	4.02	4.99	6.00	7.02	8.04	9.03	9.95
95	4.43	5.51	6.67	7.86	9.04	10.17	11.21
100	4.87	6.08	7.41	8.78	10.12	11.38	12.47
105	5.34	6.69	8.20	9.77	11.27		
110	5.84	7.36	9.07	10.83	12.48		
115	6.36	8.08	10.02	11.98			
120	6.91	8.86	11.05				
125	7.49	9.70	12.16				

TABLE 60. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-50 SERIES) JT8D-17 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	121.0	120.2	117.0	112.8	108.8	104.8	100.9	97.2	93.5
55	121.0	119.5	117.0	112.8	108.8	104.8	100.9	97.2	93.5
60	121.0	119.5	117.0	112.8	108.8	104.8	100.9	97.2	93.5
65	121.0	119.5	117.0	112.8	108.8	104.8	100.9	97.2	93.5
70	121.0	119.5	116.2	112.0	108.0	104.0	100.2	96.4	92.8
75	121.0	119.5	115.2	111.0	106.9	103.0	99.2	95.5	92.0
80	121.0	118.3	114.0	109.9	105.9	102.0	98.3	94.6	91.1
85	121.0	116.9	112.7	108.6	104.7	100.9	97.2	93.6	90.1
90	119.0	114.7	110.6	106.7	102.8	99.1	95.4	91.8	88.3
95	116.5	112.4	108.4	104.6	100.8	97.2	93.6	90.0	86.5
100	114.0	110.0	106.1	102.3	98.7	95.1	91.6	88.1	84.6
105	111.3	107.4	103.6	100.0	96.4	92.9	89.5	86.1	82.7
110	108.6	104.7	101.0	97.4	94.0	90.6	87.2	84.0	80.7

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	45.5	48.1	51.0	54.3	58.0	62.0	66.5	71.5	77.0
55	46.1	48.6	51.4	54.7	58.4	62.6	67.2	72.2	77.8
60	46.7	49.1	51.9	55.1	58.9	63.1	67.8	72.9	78.6
65	47.4	49.5	52.3	55.6	59.4	63.7	68.4	73.7	79.3
70	47.7	50.1	53.0	56.4	60.3	64.7	69.6	74.9	80.6
75	48.0	50.6	53.7	57.3	61.3	65.8	70.8	76.2	82.0
80	48.3	50.4	53.7	57.5	61.7	66.3	71.3	76.6	82.2
85	48.8	51.8	55.3	59.2	63.6	68.3	73.5	79.1	85.1
90	50.1	53.3	56.9	61.0	65.4	70.4	75.8	81.6	87.9
95	51.5	54.8	58.5	62.7	67.3	72.4	78.0	84.1	90.8
100	52.8	56.2	60.1	64.4	69.1	74.4	80.2	86.6	93.6
105	54.1	57.7	61.7	66.1	71.0	76.5	82.5	89.1	96.4
110	55.5	59.1	63.2	67.8	72.9	78.5	84.7	91.6	99.3

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 40	50	60	70	80	90	100
70	2.64	3.27	3.87	4.44	5.00	5.54	6.08
75	2.93	3.65	4.34	5.00	5.65	6.29	6.93
80	3.26	4.07	4.85	5.62	6.36	7.11	7.85
85	3.61	4.52	5.41	6.28	7.15	8.01	8.87
90	3.99	5.00	6.00	7.00	8.00	9.00	10.00
95	4.40	5.51	6.64	7.78	8.93	10.09	11.26
100	4.84	6.06	7.32	8.62	9.95	11.30	
105	5.32	6.63	8.04	9.52	11.06		
110	5.32	7.24	8.81	10.49	12.26		
115	6.36	7.88	9.62	11.53			
120	6.92	8.55	10.48				
125	7.52	9.26	11.38				

TABLE 61. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-50 SERIES)
JT8D-17 ENGINE, 5° FLAPS, 5% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	121.0	121.0	119.5	115.3	111.3	107.3	103.4	99.5	95.8
55	121.0	121.0	119.5	115.3	111.3	107.3	103.4	99.5	95.8
60	121.0	121.0	119.5	115.3	111.3	107.3	103.4	99.5	95.8
65	121.0	121.0	119.5	115.3	111.3	107.3	103.4	99.5	95.8
70	121.0	121.0	118.7	114.5	110.4	106.4	102.5	98.7	95.1
75	121.0	121.0	117.6	113.5	109.4	105.4	101.5	97.8	94.1
80	121.0	120.8	116.5	112.4	108.3	104.4	100.5	96.8	93.2
85	121.0	119.5	115.2	111.1	107.1	103.2	99.4	95.7	92.0
90	121.0	117.3	113.1	109.1	105.2	101.4	97.7	94.0	90.3
95	119.1	114.9	110.9	107.0	103.2	99.4	95.8	92.1	88.5
100	116.5	112.5	108.6	104.7	101.0	97.3	93.7	90.1	86.6
105	113.8	109.9	106.1	102.3	98.7	95.1	91.5	88.0	84.6
110	111.0	107.1	103.4	99.7	96.2	92.7	89.2	85.8	82.5

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	50.0	52.9	56.1	59.9	64.1	68.8	73.9	79.5	85.5
55	50.6	53.3	56.5	60.3	64.5	69.3	74.5	80.3	86.4
60	51.3	53.7	56.9	60.6	64.9	69.8	75.2	81.1	87.4
65	51.9	54.2	57.2	61.0	65.4	70.4	75.9	81.9	88.3
70	52.3	54.9	58.1	62.0	66.5	71.6	77.2	83.3	89.8
75	52.7	55.7	59.2	63.2	67.8	73.0	78.7	84.8	91.5
80	53.2	56.4	60.2	64.4	69.1	74.4	80.1	86.4	93.2
85	53.8	57.4	61.4	65.8	70.6	76.0	81.8	88.2	95.1
90	55.3	59.0	63.1	67.7	72.7	78.3	84.3	91.0	98.2
95	56.9	60.7	64.9	69.6	74.8	80.6	86.9	93.8	101.3
100	58.4	62.3	66.7	71.5	76.9	82.9	89.4	96.6	104.3
105	60.0	63.9	68.4	73.5	79.1	85.2	92.0	99.4	107.4
110	61.5	65.6	70.2	75.4	81.2	87.5	94.5	102.2	110.5

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120
70	3.29	3.89	4.46	5.01	5.56	6.11	6.67	7.25
75	3.65	4.35	5.02	5.66	6.30	6.95	7.62	8.32
80	4.06	4.36	5.63	6.38	7.12	7.88	8.66	9.47
85	4.51	5.41	6.29	7.15	8.02	8.39	9.78	10.69
90	5.00	6.00	7.00	8.00	8.99	9.99	10.99	12.00
95	5.52	6.64	7.77	8.91	10.05	11.18	12.29	
100	6.08	7.31	8.59	9.90	11.19	12.46		
105	6.67	8.04	9.48	10.96	12.42			
110	7.30	8.80	10.43	12.09				
115	7.96	9.62	11.44					
120	8.64	10.48						

TABLE 62. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-50 SERIES)
JT8D-17 ENGINE, 0° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	121.0	121.0	121.0	117.0	112.7	108.5	104.5	100.7	97.0
55	121.0	121.0	121.0	117.0	112.7	108.5	104.5	100.7	97.0
60	121.0	121.0	121.0	117.0	112.7	108.5	104.5	100.7	97.0
65	121.0	121.0	121.0	117.0	112.7	108.5	104.5	100.7	97.0
70	121.0	121.0	120.1	116.0	111.8	107.6	103.6	99.8	96.2
75	121.0	121.0	119.0	114.8	110.7	106.6	102.6	98.8	95.2
80	121.0	121.0	118.0	113.8	109.7	105.7	101.8	98.0	94.3
85	121.0	121.0	116.7	112.6	108.5	104.6	100.7	96.9	93.1
90	121.0	118.5	114.2	110.2	106.4	102.5	98.6	94.6	90.2
95	120.6	116.0	111.9	108.0	104.2	100.4	96.6	92.4	87.9
100	118.2	113.7	109.6	105.7	102.0	98.4	94.6	90.5	86.2
105	115.7	111.4	107.4	103.5	99.9	96.2	92.6	88.8	84.9
110	113.2	109.2	105.2	101.4	97.7	94.1	90.7	87.4	84.2

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	51.0	53.1	56.0	59.7	64.0	68.8	74.2	79.9	86.0
55	51.3	53.7	56.7	60.4	64.7	69.5	74.9	80.7	86.9
60	51.6	54.2	57.4	61.1	65.4	70.3	75.6	81.5	87.9
65	51.9	54.8	58.1	61.9	66.2	71.0	76.4	82.3	88.8
70	52.5	55.5	58.9	62.8	67.2	72.1	77.6	83.7	90.3
75	53.0	56.2	59.8	63.8	68.3	73.4	79.0	85.2	92.0
80	53.6	56.9	60.6	64.8	69.5	74.7	80.4	86.7	93.7
85	54.3	57.8	61.7	66.0	70.8	76.1	82.0	88.5	95.6
90	55.9	59.4	63.4	67.9	72.9	78.5	84.6	91.4	98.9
95	57.4	61.1	65.2	69.8	75.0	80.8	87.2	94.3	102.2
100	58.9	62.7	67.0	71.8	77.1	83.1	89.8	97.2	105.4
105	60.5	64.4	68.8	73.7	79.2	85.5	92.4	100.1	108.7
110	62.0	66.0	70.5	75.6	81.4	87.8	95.0	103.0	112.0

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120
70	3.23	3.85	4.45	5.02	5.57	6.11	6.65	7.18
75	3.65	4.32	4.99	5.65	6.31	6.95	7.58	8.19
80	4.08	4.83	5.60	6.36	7.12	7.87	8.60	9.30
85	4.53	5.39	6.27	7.15	8.02	8.89	9.73	10.56
90	5.00	6.00	7.00	8.00	9.00	10.01	11.00	12.00
95	5.50	6.65	7.78	8.92	10.07	11.24	12.43	13.65
100	6.03	7.33	8.62	9.91	11.22	12.59	14.02	
105	6.60	8.06	9.50	10.95	12.46	14.07		
110	7.21	8.82	10.41	12.04	13.78			
115	7.87	9.62	11.37	13.19				
120	8.58	10.46	12.36	14.39				
125	9.34	11.33	13.37					

TABLE 63. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-50 SERIES)
JT8D-17 ENGINE, 0° FLAPS, 6% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	121.0	121.0	121.0	119.4	115.0	110.7	106.7	102.8	99.0
55	121.0	121.0	121.0	119.4	115.0	110.7	106.7	102.8	99.0
60	121.0	121.0	121.0	119.4	115.0	110.7	106.7	102.8	99.0
65	121.0	121.0	121.0	119.4	115.0	110.7	106.7	102.8	99.0
70	121.0	121.0	121.0	118.4	114.1	109.8	105.7	101.8	98.2
75	121.0	121.0	121.0	117.2	113.0	108.8	104.7	100.8	97.2
80	121.0	121.0	120.4	116.2	112.0	107.9	103.8	100.0	96.3
85	121.0	121.0	119.1	114.9	110.8	106.8	102.8	98.9	95.0
90	121.0	120.9	116.6	112.5	108.6	104.7	100.7	96.6	92.2
95	121.0	118.5	114.2	110.2	106.4	102.6	98.6	94.4	89.8
100	120.6	116.0	111.9	107.9	104.2	100.4	96.6	92.5	88.0
105	118.1	113.7	109.6	105.7	102.0	98.3	94.6	90.7	86.7
110	115.6	111.4	107.4	103.5	99.8	96.2	92.6	89.2	85.9

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	57.5	60.0	63.4	67.5	72.4	77.9	84.2	91.0	98.5
55	57.8	60.5	64.0	68.3	73.2	78.8	85.1	91.9	99.4
60	58.1	61.1	64.7	69.0	74.0	79.7	86.0	92.9	100.4
65	58.4	61.6	65.4	69.8	74.8	80.5	86.8	93.8	101.3
70	59.0	62.3	66.3	70.9	76.1	81.9	88.3	95.4	103.1
75	59.5	63.2	67.4	72.2	77.5	83.4	90.0	97.2	105.0
80	60.1	64.0	68.5	73.4	78.9	85.0	91.7	99.0	107.0
85	60.9	65.1	69.7	74.9	80.5	86.8	93.6	101.1	109.3
90	62.7	67.1	71.9	77.2	83.1	89.5	96.6	104.4	113.0
95	64.5	69.1	74.0	79.5	85.6	92.3	99.7	107.8	116.8
100	66.3	71.0	76.2	81.9	88.1	95.1	102.7	111.2	120.5
105	68.2	73.0	78.3	84.2	90.7	97.8	105.8	114.5	124.2
110	70.0	75.0	80.5	86.5	93.2	100.6	108.8	117.9	128.0

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120	130
70	3.31	3.90	4.47	5.03	5.58	6.13	6.67	7.22	7.77
75	3.71	4.37	5.01	5.66	6.30	6.94	7.59	8.24	8.90
80	4.12	4.87	5.62	6.36	7.11	7.86	8.62	9.38	10.15
85	4.55	5.41	6.28	7.14	8.01	8.88	9.76	10.64	11.52
90	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.01	13.01
95	5.48	6.63	7.78	8.92	10.07	11.21	12.35	13.49	14.63
100	5.99	7.30	8.61	9.91	11.21	12.51	13.81		
105	6.55	8.02	9.50	10.97	12.43	13.89			
110	7.15	8.79	10.44	12.08	13.72				
115	7.80	9.61	11.43	13.24					
120	8.52	10.49	12.46	14.46					
125	9.30	11.41	13.55						

TABLE 64. AIRCRAFT PERFORMANCE, LANDING (DC-10-10)
CF6-6D ENGINE, 50° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5
55	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5
60	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5
65	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5
70	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5	359.8
75	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5	350.9
80	363.5	363.5	363.5	363.5	363.5	363.5	363.5	355.6	342.3
85	363.5	363.5	363.5	363.5	363.5	363.5	359.8	346.6	333.9
90	363.5	363.5	363.5	363.5	363.5	363.5	350.6	337.8	325.5
95	363.5	363.5	363.5	363.5	363.5	354.6	341.7	329.2	317.0
100	363.5	363.5	363.5	363.5	358.4	345.5	332.8	320.5	308.5
105	363.5	363.5	363.5	362.1	349.1	336.4	324.0	312.0	
110	363.5	363.5	363.5	352.7	339.9	327.5			

RUNWAY LENGTH (1000 FEET)

WEIGHT	AIRPORT ELEVATION (FEET)								
1000 LBS	0	1000	2000	3000	4000	5000	6000	7000	8000
240	4.81	4.93	5.04	5.16	5.29	5.42	5.56	5.70	5.85
250	4.97	5.09	5.21	5.34	5.47	5.61	5.75	5.89	6.04
260	5.13	5.25	5.38	5.51	5.65	5.79	5.94	6.09	6.24
270	5.28	5.41	5.54	5.68	5.82	5.97	6.12	6.28	6.43
280	5.44	5.57	5.71	5.85	6.00	6.15	6.31	6.47	6.63
290	5.59	5.73	5.87	6.02	6.17	6.33	6.49	6.66	6.83
300	5.75	5.89	6.04	6.19	6.35	6.51	6.68	6.85	7.03
310	5.90	6.05	6.20	6.36	6.52	6.69	6.86	7.04	7.22
320	6.06	6.21	6.37	6.53	6.70	6.87	7.05	7.23	7.42
330	6.21	6.37	6.54	6.70	6.87	7.05	7.23	7.42	7.62
340	6.37	6.53	6.69	6.86	7.03	7.21	7.40	7.59	7.79
350	6.51	6.66	6.83	7.00	7.19	7.37	7.57	7.78	7.99
360	6.64	6.81	6.98	7.16	7.35	7.54	7.75	7.96	8.18
370	6.77	6.96	7.14	7.33	7.52	7.71	7.92	8.13	8.37

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL	LBS.	263,300
AVERAGE FUEL CONSUMPTION	LBS./MILE	30
TYPICAL MAXIMUM PASSENGER LOAD @200 LBS./PASSENGER	LBS.	54,000
MAXIMUM STRUCTURAL PAYLOAD	LBS.	99,660

TABLE 65. AIRCRAFT PERFORMANCE, LANDING (DC-10-10)
CF6-6D ENGINE, 35° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5
55	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5
60	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5
65	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5
70	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5
75	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5
80	363.5	363.5	363.5	363.5	363.5	363.5	363.5	363.5	358.0
85	363.5	363.5	363.5	363.5	363.5	363.5	363.5	362.4	348.8
90	363.5	363.5	363.5	363.5	363.5	363.5	363.5	353.0	339.9
95	363.5	363.5	363.5	363.5	363.5	363.5	357.0	343.9	331.3
100	363.5	363.5	363.5	363.5	363.5	361.0	347.8	335.2	323.0
105	363.5	363.5	363.5	363.5	363.5	351.7	339.0	326.8	
110	363.5	363.5	363.5	363.5	355.7	342.8			

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
240	5.44	5.56	5.69	5.82	5.96	6.10	6.25	6.40	6.56
250	5.61	5.73	5.86	6.00	6.14	6.29	6.45	6.61	6.78
260	5.78	5.90	6.04	6.18	6.33	6.49	6.65	6.82	7.00
270	5.95	6.08	6.22	6.37	6.52	6.69	6.86	7.04	7.22
280	6.12	6.26	6.40	6.55	6.72	6.89	7.06	7.25	7.43
290	6.30	6.43	6.58	6.74	6.91	7.09	7.27	7.46	7.65
300	6.47	6.61	6.76	6.93	7.10	7.28	7.47	7.66	7.86
310	6.64	6.78	6.94	7.11	7.29	7.48	7.68	7.87	8.07
320	6.81	6.96	7.12	7.30	7.49	7.68	7.88	8.08	8.28
330	6.97	7.13	7.30	7.48	7.67	7.87	8.08	8.29	8.49
340	7.11	7.30	7.48	7.67	7.86	8.05	8.26	8.47	8.70
350	7.29	7.47	7.65	7.83	8.02	8.22	8.44	8.67	8.92
360	7.45	7.62	7.80	7.99	8.19	8.40	8.63	8.86	9.11
370	7.57	7.76	7.96	8.17	8.38	8.60	8.82	9.05	9.29

TABLE 66. AIRCRAFT PERFORMANCE, TAKEOFF (DC-10-10)
CF6-6D ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	378.0	370.5	363.5	356.6	349.6	342.5	335.1	327.5	319.5
55	378.1	370.5	363.4	356.6	349.5	342.5	335.2	327.5	319.5
60	378.3	370.5	363.3	356.5	349.4	342.5	335.3	327.5	319.5
65	378.4	370.5	363.2	356.4	349.3	342.5	335.4	327.5	314.2
70	378.6	370.5	363.2	356.3	349.2	342.5	332.9	320.1	307.7
75	378.8	370.5	363.1	356.3	349.1	337.0	324.6	312.7	301.1
80	378.9	370.5	363.0	353.5	340.4	328.1	316.5	305.3	294.4
85	379.0	370.5	356.4	343.3	331.0	319.5	308.5	297.9	287.6
90	373.3	359.0	345.8	333.5	322.0	311.1	300.7	290.5	280.5
95	361.5	348.1	335.7	324.1	313.3	302.9	292.8	283.0	
100	350.6	337.9	326.1	315.2	304.8	294.8	285.0	275.2	
105	340.7	328.5	317.2	306.6	296.5	286.7	277.0		
110	332.0	320.0	308.9	298.5	288.5	278.7			

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	41.5	43.4	45.5	47.8	50.2	53.0	56.0	59.3	63.0
55	41.8	43.8	45.9	48.1	50.7	53.4	56.5	59.9	63.6
60	42.2	44.1	46.2	48.5	51.1	53.9	57.0	60.4	64.2
65	42.4	44.4	46.6	48.9	51.5	54.3	57.4	60.9	65.4
70	42.7	44.7	46.9	49.3	51.8	54.7	58.2	62.5	67.2
75	43.0	45.1	47.3	49.7	52.3	55.9	60.0	64.5	69.5
80	43.3	45.4	47.7	50.4	53.9	57.8	62.1	66.8	72.2
85	43.6	45.8	48.8	52.2	55.8	59.9	64.4	69.4	75.1
90	44.4	47.4	50.6	54.0	57.9	62.1	66.9	72.4	78.5
95	46.0	49.1	52.4	56.1	60.1	64.6	69.7	75.5	
100	47.6	50.9	54.4	58.2	62.4	67.3	72.8	79.0	
105	49.4	52.7	56.4	60.4	64.9	70.1	76.0		
110	51.1	54.7	58.5	62.7	67.6	73.1			

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 40	45	50	55	60	65	70	75	80
280	4.00	4.00	4.19	4.59	4.98	5.36	5.74	6.11	6.46
290	4.00	4.02	4.45	4.88	5.31	5.73	6.14	6.55	6.96
300	4.00	4.26	4.72	5.18	5.65	6.11	6.56	7.02	7.48
310	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.51	8.03
320	4.21	4.75	5.29	5.83	6.36	6.91	7.46	8.02	8.61
330	4.43	5.01	5.59	6.16	6.74	7.33	7.93	8.55	
340	4.66	5.29	5.90	6.52	7.13	7.76	8.41		
350	4.89	5.57	6.23	6.88	7.53	8.21			
360	5.14	5.87	6.57	7.26	7.95	8.66			
370	5.41	6.19	6.93	7.65	8.38				
380	5.69	6.52	7.30	8.06	8.82				
390	5.98	6.87	7.69	8.48					
400	6.30	7.24	8.10	8.92					
410	6.63	7.63	8.53						
420	6.99	8.04	8.98						
430	7.36	8.47							

TABLE 67. AIRCRAFT PERFORMANCE, TAKEOFF (DC-10-10) CF6-6D ENGINE, 20° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	393.0	386.0	379.0	371.9	364.8	357.3	349.5	341.5	333.0
55	393.2	386.0	378.9	371.8	364.7	357.3	349.7	341.5	333.0
60	393.3	386.0	378.8	371.7	364.6	357.3	349.8	341.5	333.0
65	393.5	386.0	378.7	371.5	364.5	357.3	349.9	341.5	328.1
70	393.6	386.0	378.7	371.2	364.4	357.3	346.9	334.1	321.6
75	393.8	386.0	378.6	371.0	364.4	351.4	338.7	326.6	314.9
80	393.9	386.0	378.5	368.4	355.1	342.5	330.5	319.0	307.8
85	394.0	386.0	371.7	358.3	345.7	333.7	322.3	311.3	300.5
90	389.0	374.5	360.9	348.3	336.4	325.0	314.1	303.5	293.0
95	376.9	363.2	350.5	338.6	327.3	316.5	305.9	295.6	285.2
100	365.5	352.6	340.6	329.3	318.5	308.0	297.8	287.6	277.3
105	355.3	342.9	331.4	320.4	310.0	299.8	289.7	279.6	
110	346.5	334.4	323.0	312.2	301.8	291.7			

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	42.3	44.2	46.3	48.5	50.9	53.7	56.6	60.0	63.7
55	42.6	44.5	46.6	48.9	51.4	54.2	57.2	60.6	64.3
60	43.0	44.9	47.0	49.3	51.8	54.6	57.7	61.1	64.8
65	43.3	45.2	47.4	49.7	52.3	55.1	58.2	61.5	65.9
70	43.6	45.6	47.8	50.1	52.7	55.5	58.9	63.1	67.7
75	43.9	45.9	48.1	50.5	53.0	56.6	60.7	65.1	70.0
80	44.1	46.3	48.5	51.1	54.6	58.5	62.7	67.4	72.5
85	44.5	46.6	49.6	52.9	56.5	60.5	65.0	69.9	75.4
90	45.2	48.1	51.3	54.7	58.5	62.8	67.5	72.8	78.7
95	46.7	49.8	53.1	56.7	60.7	65.2	70.2	75.9	82.3
100	48.4	51.6	55.0	58.8	63.0	67.8	73.1	79.2	86.2
105	50.1	53.4	57.0	61.0	65.5	70.5	76.3	82.9	
110	51.8	55.4	59.2	63.4	68.1	73.5			

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"									
1000 LBS	40	45	50	55	60	65	70	75	80	85
280	4.00	4.00	4.21	4.62	5.02	5.40	5.77	6.13	6.48	6.82
290	4.00	4.02	4.46	4.90	5.33	5.75	6.16	6.56	6.95	7.33
300	4.00	4.26	4.72	5.19	5.65	6.11	6.57	7.02	7.46	7.88
310	4.03	4.50	4.99	5.49	5.99	6.50	7.01	7.51	8.00	8.48
320	4.26	4.75	5.27	5.80	6.35	6.91	7.47	8.03	8.59	9.13
330	4.49	5.01	5.56	6.14	6.74	7.35	7.97	8.59	9.21	
340	4.72	5.27	5.87	6.49	7.15	7.82	8.50	9.19		
350	4.95	5.55	6.19	6.87	7.58	8.32	9.07			
360	5.18	5.83	6.53	7.27	8.05	8.85				
370	5.43	6.13	6.90	7.71	8.55	9.43				
380	5.67	6.45	7.29	8.17	9.09					
390	5.93	6.79	7.71	8.67	9.67					
400	6.19	7.14	8.15	9.21						
410	6.46	7.52	8.63	9.78						
420	6.74	7.92	9.15							
430	7.03	8.35	9.70							

TABLE 68. AIRCRAFT PERFORMANCE, TAKEOFF (DC-10-10)
CF6-6D ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	408.0	400.6	393.6	386.2	378.7	371.1	363.1	355.0	346.5
55	408.1	400.6	393.5	386.2	378.7	371.1	363.2	355.0	346.5
60	408.3	400.6	393.4	386.1	378.7	371.1	363.3	355.0	346.5
65	408.5	400.6	393.2	385.9	378.6	371.1	363.3	355.0	341.2
70	408.6	400.6	393.1	385.8	378.6	371.1	360.8	347.6	334.5
75	408.8	400.6	393.0	385.7	378.5	365.4	352.4	339.9	327.6
80	408.9	400.6	392.9	382.8	369.1	356.2	343.9	332.1	320.5
85	409.0	400.6	386.0	372.3	359.4	347.1	335.4	324.1	313.1
90	403.6	388.8	374.9	362.0	349.7	338.1	326.9	316.1	305.5
95	391.1	377.3	364.2	352.0	340.3	329.2	318.4	307.9	297.6
100	379.6	366.4	354.1	342.4	331.2	320.4	309.9	299.6	289.4
105	369.1	356.5	344.7	333.3	322.4	311.8	301.5	291.2	
110	360.0	347.7	336.1	324.9	314.1	303.5			

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	44.1	46.0	48.2	50.6	53.2	56.1	59.3	62.7	66.3
55	44.5	46.4	48.6	51.0	53.7	56.6	59.8	63.3	67.1
60	44.8	46.8	49.0	51.5	54.1	57.0	60.2	63.8	67.6
65	45.0	47.2	49.4	51.9	54.5	57.4	60.6	64.2	68.8
70	45.3	47.5	49.8	52.2	54.9	57.8	61.4	65.9	70.8
75	45.6	47.8	50.2	52.6	55.3	59.1	63.3	67.9	73.1
80	46.0	48.2	50.5	53.4	57.0	61.0	65.4	70.3	75.7
85	46.3	48.5	51.8	55.2	59.0	63.1	67.8	73.0	78.8
90	47.2	50.3	53.6	57.2	61.1	65.5	70.4	75.9	82.2
95	48.8	52.0	55.4	59.2	63.3	68.0	73.2	79.2	85.9
100	50.5	53.8	57.4	61.4	65.8	70.7	76.3	82.7	90.0
105	52.3	55.7	59.5	63.7	68.3	73.6	79.7	86.5	
110	54.1	57.8	61.7	66.1	71.1	76.8			

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 40	50	60	70	80	90
280	4.00	4.22	4.99	5.76	6.54	7.35
290	4.00	4.47	5.32	6.17	7.02	7.87
300	4.00	4.72	5.66	6.60	7.52	8.41
310	4.02	5.00	6.02	7.04	8.04	8.96
320	4.23	5.28	6.39	7.50	8.56	9.51
330	4.44	5.58	6.78	7.98	9.09	10.05
340	4.67	5.89	7.18	8.46	9.63	10.59
350	4.90	6.21	7.60	8.95	10.16	
360	5.13	6.55	8.03	9.45	10.68	
370	5.38	6.89	8.46	9.94		
380	5.63	7.25	8.91	10.44		
390	5.89	7.63	9.36	10.92		
400	6.17	8.01	9.82			
410	6.45	8.40	10.29			
420	6.74	8.81	10.75			
430	7.04	9.23	11.23			

TABLE 69. AIRCRAFT PERFORMANCE, TAKEOFF (DC-10-10) CF6-6D ENGINE, 10° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	424.5	416.9	409.0	401.5	393.7	385.6	377.2	368.8	359.5
55	424.7	416.9	408.9	401.4	393.6	385.6	377.3	368.8	359.5
60	424.9	416.9	408.8	401.2	393.5	385.6	377.4	368.8	359.5
65	425.0	416.9	408.8	401.0	393.4	385.6	377.5	368.8	354.4
70	425.1	416.9	408.7	400.7	393.3	385.6	375.0	361.2	347.5
75	425.2	416.9	408.6	400.5	393.2	379.6	366.2	353.2	340.2
80	425.4	416.9	408.5	397.8	383.4	370.0	357.3	344.9	332.5
85	425.5	416.9	401.1	386.6	373.2	360.5	348.3	336.4	324.5
90	419.8	404.0	389.4	375.9	363.2	351.1	339.4	327.8	316.3
95	406.5	391.9	378.4	365.6	353.5	341.8	330.5	319.2	307.9
100	394.4	380.8	368.0	355.7	344.0	332.7	321.6	310.5	299.4
105	383.6	370.6	358.2	346.3	334.8	323.7	312.8	301.9	
110	374.0	361.2	349.0	337.2	325.9	314.8			

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	46.4	48.6	51.0	53.6	56.4	59.5	62.9	66.6	70.7
55	46.8	49.0	51.3	54.0	56.8	60.0	63.4	67.3	71.5
60	47.1	49.4	51.8	54.4	57.3	60.4	63.9	67.8	72.1
65	47.5	49.8	52.3	54.9	57.8	60.9	64.4	68.2	73.3
70	47.9	50.2	52.7	55.4	58.3	61.4	65.3	70.2	75.4
75	48.3	50.7	53.2	55.8	58.8	62.8	67.4	72.4	77.8
80	48.6	51.0	53.5	56.6	60.5	64.9	69.7	74.9	80.7
85	49.0	51.3	54.8	58.6	62.7	67.2	72.2	77.7	83.9
90	49.7	53.2	56.8	60.7	65.0	69.7	75.0	80.9	87.5
95	51.6	55.1	58.9	62.9	67.4	72.4	78.0	84.4	91.5
100	53.5	57.1	61.1	65.3	70.0	75.3	81.3	88.2	95.9
105	55.4	59.2	63.3	67.8	72.8	78.5	84.9	92.3	
110	57.2	61.3	65.7	70.4	75.7	81.8			

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"						
1000 LBS	40	50	60	70	80	90	100
280	4.00	4.21	4.99	5.78	6.56	7.32	8.05
290	4.00	4.46	5.31	6.17	7.02	7.85	8.63
300	4.00	4.73	5.65	6.58	7.51	8.41	9.25
310	4.07	5.00	6.00	7.02	8.03	9.00	9.90
320	4.29	5.29	6.36	7.47	8.57	9.62	10.58
330	4.51	5.59	6.75	7.94	9.13	10.26	11.30
340	4.75	5.90	7.15	8.43	9.71	10.94	12.05
350	4.99	6.22	7.56	8.94	10.32	11.64	
360	5.23	6.55	7.99	9.47	10.95	12.37	
370	5.49	6.90	8.43	10.02	11.61		
380	5.75	7.26	8.89	10.59	12.29		
390	6.03	7.62	9.37	11.18	12.99		
400	6.31	8.01	9.86	11.78			
410	6.60	8.40	10.36	12.41			
420	6.90	8.80	10.88	13.05			
430	7.22	9.22	11.42				

TABLE 70. AIRCRAFT PERFORMANCE, TAKEOFF (DC-10-10) CF6-6D ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	430.0	430.0	425.7	417.8	409.7	401.0	392.2	383.3	374.0
55	430.0	430.0	425.6	417.7	409.6	401.0	392.3	383.3	374.0
60	430.0	430.0	425.5	417.7	409.5	401.0	392.4	383.3	374.0
65	430.0	430.0	425.4	417.4	409.3	401.0	392.4	383.3	368.9
70	430.0	430.0	425.3	417.2	409.2	401.0	389.8	375.5	362.0
75	430.0	430.0	425.2	417.1	409.1	394.6	380.5	367.1	354.5
80	430.0	430.0	425.1	413.9	398.7	384.6	371.2	358.6	346.4
85	430.0	430.0	417.4	402.3	388.1	374.7	362.0	349.8	338.0
90	430.0	420.2	405.3	391.2	377.8	365.1	352.8	341.0	329.4
95	422.5	407.8	393.8	380.5	367.9	355.6	343.7	332.0	320.5
100	410.1	396.2	383.0	370.3	358.1	346.2	334.6	323.1	311.6
105	398.9	385.5	372.7	360.4	348.5	336.9	325.4	314.1	
110	389.0	375.6	362.9	350.7	339.0	327.5			

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	50.4	52.7	55.4	58.2	61.4	64.9	68.7	72.9	77.3
55	50.8	53.2	55.9	58.8	61.9	65.4	69.2	73.4	78.0
60	51.2	53.7	56.4	59.3	62.5	66.0	69.9	74.1	78.9
65	51.6	54.2	56.9	59.9	63.1	66.7	70.5	74.8	80.3
70	52.0	54.6	57.4	60.4	63.7	67.1	71.4	76.8	82.5
75	52.4	55.0	57.9	60.9	64.0	68.6	73.7	79.3	85.3
80	52.7	55.4	58.2	61.6	66.1	71.0	76.3	82.1	88.5
85	53.1	55.7	59.7	63.9	68.5	73.6	79.1	85.3	92.1
90	54.1	57.9	61.9	66.3	71.1	76.4	82.2	88.8	96.2
95	56.2	60.1	64.2	68.8	73.8	79.3	85.6	92.7	100.6
100	58.2	62.3	66.6	71.4	76.6	82.6	89.3	96.8	105.3
105	60.3	64.6	69.1	74.1	79.7	86.0	93.2	101.3	
110	62.5	66.9	71.8	77.1	83.0	89.8			

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 50	60	70	80	90	100	110
280	4.21	5.00	5.79	6.57	7.34	8.11	8.89
290	4.46	5.33	6.18	7.03	7.87	8.72	9.58
300	4.72	5.66	6.59	7.51	8.43	9.36	10.31
310	4.99	6.01	7.02	8.02	9.02	10.04	11.07
320	5.26	6.37	7.46	8.55	9.64	10.74	11.86
330	5.55	6.74	7.92	9.10	10.29	11.48	12.69
340	5.85	7.13	8.40	9.68	10.96	12.25	13.55
350	6.16	7.53	8.90	10.28	11.66	13.05	14.44
360	6.48	7.94	9.42	10.90	12.39	13.88	15.37
370	6.82	8.37	9.95	11.54	13.14	14.74	16.33
380	7.18	8.82	10.50	12.21	13.92	15.64	17.33
390	7.55	9.28	11.07	12.89	14.73	16.56	
400	7.94	9.76	11.66	13.60	15.56	17.51	
410	8.35	10.25	12.26	14.33	16.42		
420	8.77	10.76	12.88	15.08	17.31		
430	9.23	11.29	13.52	15.85			

TABLE 71. AIRCRAFT PERFORMANCE, TAKEOFF (DC-10-10)
CF6-6D ENGINE, 0° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	430.0	430.0	430.0	430.0	429.5	420.3	411.0	401.5	391.9
55	430.0	430.0	430.0	430.0	429.4	420.3	411.2	401.5	391.9
60	430.0	430.0	430.0	430.0	429.3	420.3	411.3	401.5	391.9
65	430.0	430.0	430.0	430.0	429.2	420.3	411.5	401.5	386.5
70	430.0	430.0	430.0	430.0	429.1	420.3	408.6	393.5	379.1
75	430.0	430.0	430.0	430.0	429.0	413.9	399.1	384.9	371.1
80	430.0	430.0	430.0	430.0	418.1	403.4	389.4	375.9	362.7
85	430.0	430.0	430.0	421.6	406.9	393.0	379.7	366.7	353.9
90	430.0	430.0	424.6	409.9	396.0	382.8	369.9	357.3	344.7
95	430.0	427.5	412.7	398.8	385.4	372.6	360.1	347.7	335.3
100	430.0	415.6	401.5	388.0	375.1	362.6	350.3	338.0	325.7
105	418.7	404.3	390.7	377.6	365.0	352.7	340.5	328.3	
110	407.5	393.6	380.3	367.5	355.1	342.9			

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	58.1	61.0	64.1	67.5	71.3	75.4	79.8	84.8	90.1
55	58.7	61.5	64.7	68.1	71.8	76.0	80.5	85.5	91.1
60	59.1	62.1	65.3	68.7	72.5	76.7	81.2	86.3	91.9
65	59.6	62.6	65.9	69.4	73.2	77.3	81.9	87.0	93.5
70	60.0	63.2	66.5	70.0	73.8	77.9	83.0	89.4	96.2
75	60.4	63.7	67.0	70.6	74.3	79.7	85.7	92.3	99.5
80	60.9	64.1	67.5	71.5	76.8	82.5	88.8	95.7	103.3
85	61.3	64.6	69.2	74.1	79.6	85.5	92.1	99.4	107.5
90	62.5	67.0	71.8	77.0	82.6	88.8	95.8	103.6	112.3
95	64.9	69.6	74.5	79.9	85.8	92.4	99.8	108.1	117.5
100	67.4	72.2	77.4	83.1	89.3	96.3	104.1	113.1	123.2
105	69.9	75.0	80.4	86.3	92.9	100.3	108.8	118.4	
110	72.5	77.8	83.5	89.8	96.8	104.7			

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"								
1000 LBS	50	60	70	80	90	100	110	120	130
280	4.23	5.00	5.78	6.58	7.38	8.17	8.95	9.70	10.42
290	4.49	5.32	6.17	7.03	7.90	8.76	9.60	10.42	11.21
300	4.76	5.65	6.57	7.51	8.45	9.38	10.30	11.19	12.06
310	5.03	6.00	6.99	8.00	9.02	10.03	11.03	12.01	12.96
320	5.31	6.36	7.43	8.52	9.62	10.71	11.80	12.87	13.92
330	5.60	6.74	7.89	9.06	10.24	11.42	12.61	13.79	14.96
340	5.90	7.12	8.37	9.62	10.89	12.17	13.46	14.76	16.06
350	6.21	7.53	8.86	10.20	11.56	12.95	14.35	15.78	17.24
360	6.53	7.94	9.36	10.80	12.27	13.76	15.29	16.87	
370	6.86	8.37	9.89	11.42	12.99	14.60	16.28		
380	7.21	8.81	10.43	12.06	13.74	15.48	17.31		
390	7.57	9.27	10.98	12.72	14.52	16.40			
400	7.94	9.74	11.55	13.40	15.32	17.35			
410	8.33	10.23	12.14	14.09	16.15				
420	8.74	10.73	12.74	14.81	17.00				
430	9.16	11.24	13.35	15.54	17.87				

TABLE 72. AIRCRAFT PERFORMANCE, LANDING (L-1011-385-1)
RB.211-22B ENGINE, 42° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0
55	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0
60	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0
65	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0
70	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0
75	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0	357.4
80	358.0	358.0	358.0	358.0	358.0	358.0	358.0	358.0	349.5
85	358.0	358.0	358.0	358.0	358.0	358.0	358.0	355.3	341.6
90	358.0	358.0	358.0	358.0	358.0	358.0	358.0	347.1	333.8
95	358.0	358.0	358.0	358.0	358.0	358.0	352.8	339.0	326.0
100	358.0	358.0	358.0	358.0	358.0	358.0	345.0	331.2	318.4
105	358.0	358.0	358.0	358.0	358.0	351.2	336.8	323.4	310.8
110	358.0	358.0	358.0	358.0	355.6	341.8	328.7	315.9	303.4

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
260	5.20	5.31	5.44	5.57	5.70	5.84	5.98	6.12	6.25
270	5.37	5.48	5.60	5.73	5.86	6.00	6.15	6.30	6.44
280	5.52	5.63	5.76	5.89	6.03	6.17	6.32	6.47	6.63
290	5.67	5.79	5.91	6.05	6.19	6.34	6.49	6.65	6.81
300	5.81	5.93	6.07	6.21	6.35	6.50	6.66	6.82	6.99
310	5.94	6.08	6.22	6.36	6.51	6.67	6.83	6.99	7.17
320	6.07	6.22	6.37	6.52	6.67	6.83	6.99	7.16	7.34
330	6.20	6.35	6.51	6.66	6.82	6.98	7.15	7.32	7.50
340	6.33	6.49	6.65	6.81	6.97	7.13	7.30	7.48	7.66
350	6.45	6.62	6.78	6.94	7.10	7.27	7.44	7.62	7.82
360	6.58	6.75	6.90	7.06	7.23	7.40	7.57	7.77	7.97

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL	LBS.	270,300
AVERAGE FUEL CONSUMPTION	LBS./MILE	34
TYPICAL MAXIMUM PASSENGER LOAD @200 LBS./PASSENGER	LBS.	51,200
MAXIMUM STRUCTURAL PAYLOAD	LBS.	86,183

TABLE 73. AIRCRAFT PERFORMANCE, TAKEOFF (L-1011-385-1)
RB.211-22B ENGINE, 27° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	422.3	412.3	402.4	392.7	383.0	373.4	363.9	354.3	344.8
55	422.3	412.3	402.4	392.7	383.0	373.4	363.9	354.3	344.8
60	422.3	412.3	402.4	392.7	383.0	373.4	363.9	353.3	340.4
65	422.3	412.3	402.4	392.7	383.0	373.4	361.0	347.5	334.6
70	422.3	412.3	402.4	392.7	382.8	368.4	354.5	341.2	328.4
75	422.3	412.3	402.4	390.3	375.6	361.4	347.7	334.5	321.8
80	422.3	412.3	397.5	382.5	368.0	354.0	340.5	327.5	315.0
85	420.5	404.6	389.2	374.4	360.1	346.4	333.1	320.3	308.0
90	411.5	395.8	380.7	366.1	352.1	338.6	325.6	313.0	300.9
95	402.3	386.9	372.1	357.8	344.1	330.8	318.1	305.7	293.8
100	393.1	378.0	363.6	349.6	336.1	323.1	310.6	298.5	286.8
105	384.0	369.4	355.2	341.6	328.4	315.6	303.4	291.5	280.1
110	375.2	361.0	347.2	333.9	320.9	308.4	296.4	284.8	

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	49.3	52.2	55.5	59.1	63.0	67.2	71.9	77.1	82.7
55	49.8	52.8	56.1	59.7	63.6	67.9	72.7	77.9	83.6
60	50.1	53.2	56.6	60.2	64.2	68.6	73.3	78.3	85.3
65	50.5	53.6	56.9	60.6	64.7	69.1	74.4	81.0	88.2
70	50.8	53.9	57.3	61.1	64.9	70.7	77.0	83.9	91.3
75	51.1	54.3	57.7	61.8	67.1	73.1	79.7	86.9	94.7
80	51.6	54.8	58.9	63.9	69.6	75.8	82.7	90.1	98.2
85	52.5	56.4	61.0	66.2	72.1	78.6	85.8	93.6	101.9
90	54.3	58.4	63.3	68.7	74.8	81.6	89.1	97.2	106.0
95	56.2	60.6	65.6	71.3	77.7	84.8	92.6	101.0	110.2
100	58.2	62.9	68.2	74.1	80.8	88.2	96.3	105.1	114.8
105	60.4	65.3	70.9	77.1	84.0	91.7	100.2	109.5	119.6
110	62.7	67.9	73.7	80.2	87.4	95.4	104.3	114.0	

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 40	50	60	70	80	90	100	110	120
260	4.00	4.00	4.00	4.00	4.27	4.74	5.22	5.70	6.16
270	4.00	4.00	4.00	4.11	4.61	5.14	5.66	6.18	6.69
280	4.00	4.00	4.00	4.41	4.97	5.55	6.12	6.69	7.25
290	4.00	4.00	4.12	4.72	5.35	5.98	6.61	7.23	7.83
300	4.00	4.00	4.39	5.06	5.74	6.43	7.11	7.78	8.44
310	4.00	4.00	4.68	5.41	6.15	6.90	7.64	8.37	9.09
320	4.00	4.19	4.98	5.78	6.58	7.39	8.19	8.98	9.76
330	4.00	4.45	5.31	6.17	7.04	7.90	8.76	9.62	10.47
340	4.00	4.72	5.65	6.58	7.51	8.44	9.36	10.29	11.21
350	4.00	5.00	6.00	7.00	8.00	9.00	9.99	10.99	11.99
360	4.21	5.30	6.38	7.45	8.51	9.58	10.65	11.73	12.82
370	4.44	5.61	6.77	7.91	9.05	10.19	11.34	12.50	13.68
380	4.68	5.93	7.17	8.39	9.61	10.83	12.06	13.31	14.59
390	4.92	6.27	7.59	8.89	10.19	11.49	12.81	14.16	
400	5.18	6.62	8.02	9.41	10.79	12.18	13.59		
410	5.44	6.98	8.47	9.95	11.42	12.90	14.41		
420	5.71	7.35	8.94	10.50	12.07	13.65			
430	5.98	7.73	9.42	11.08	12.74	14.43			

TABLE 76. AIRCRAFT PERFORMANCE, TAKEOFF (L-1011-385-1) RB.211-22B ENGINE, 10° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	430.0	430.0	430.0	430.0	423.7	413.2	402.5	392.0	381.8
55	430.0	430.0	430.0	430.0	423.7	413.2	402.5	392.0	381.8
60	430.0	430.0	430.0	430.0	423.7	413.2	402.5	390.6	375.8
65	430.0	430.0	430.0	430.0	423.7	413.2	399.2	384.0	369.3
70	430.0	430.0	430.0	430.0	423.7	407.6	392.1	376.9	362.3
75	430.0	430.0	430.0	430.0	415.6	399.9	384.4	369.4	355.0
80	430.0	430.0	430.0	423.3	407.3	391.6	376.4	361.6	347.4
85	430.0	430.0	430.0	414.3	398.4	383.0	368.1	353.6	339.7
90	430.0	430.0	421.0	404.9	389.3	374.2	359.6	345.5	332.0
95	430.0	427.6	411.3	395.5	380.2	365.4	351.2	337.5	324.2
100	430.0	417.6	401.6	386.1	371.2	356.8	342.9	329.5	316.6
105	424.2	407.9	392.2	377.1	362.5	348.5	334.9	321.9	309.2
110	414.8	398.8	383.4	368.6	354.4	340.6	327.4	314.6	

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	53.2	56.3	59.8	63.5	67.6	72.2	77.2	82.7	88.7
55	53.7	56.9	60.4	64.2	68.3	72.9	77.9	83.4	89.5
60	54.1	57.4	60.9	64.7	68.9	73.6	78.6	84.2	91.6
65	54.5	57.8	61.4	65.2	69.5	74.2	79.7	86.7	94.6
70	54.9	58.2	61.8	65.8	69.7	75.7	82.3	89.6	97.8
75	55.3	58.7	62.3	66.5	72.1	78.2	85.1	92.7	101.2
80	55.7	59.2	63.6	68.8	74.6	81.0	88.2	96.1	104.9
85	56.7	61.0	65.9	71.3	77.3	84.1	91.5	99.8	108.9
90	58.6	63.2	68.2	73.9	80.3	87.3	95.1	103.7	113.1
95	60.6	65.4	70.8	76.7	83.4	90.7	98.8	107.8	117.6
100	62.8	67.8	73.5	79.7	86.7	94.3	102.8	112.1	122.4
105	65.1	70.5	76.4	82.9	90.1	98.1	106.9	116.7	127.4
110	67.6	73.3	79.5	86.3	93.7	102.0	111.2	121.4	

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120	130
260	4.50	4.50	4.50	4.66	5.17	5.67	6.17	6.67	7.16
270	4.50	4.50	4.50	5.00	5.56	6.11	6.67	7.21	7.76
280	4.50	4.50	4.75	5.37	5.98	6.59	7.19	7.80	8.39
290	4.50	4.50	5.08	5.75	6.42	7.09	7.75	8.41	9.07
300	4.50	4.69	5.42	6.16	6.89	7.61	8.34	9.06	9.78
310	4.50	4.99	5.79	6.58	7.38	8.17	8.96	9.75	10.53
320	4.50	5.31	6.17	7.03	7.89	8.75	9.61	10.47	11.32
330	4.71	5.64	6.58	7.51	8.44	9.37	10.30	11.23	12.16
340	4.99	5.99	7.00	8.00	9.00	10.01	11.01	12.02	13.03
350	5.28	6.36	7.44	8.52	9.60	10.68	11.76	12.85	13.94
360	5.58	6.75	7.90	9.06	10.22	11.38	12.54	13.71	14.89
370	5.90	7.15	8.39	9.62	10.86	12.10	13.35	14.61	15.89
380	6.23	7.56	8.89	10.21	11.53	12.86	14.20	15.55	16.93
390	6.57	8.00	9.41	10.82	12.23	13.65	15.08	16.53	
400	6.93	8.45	9.95	11.45	12.96	14.47	16.00		
410	7.30	8.91	10.52	12.11	13.71	15.32	16.95		
420	7.68	9.40	11.10	12.79	14.49	16.20			
430	8.07	9.90	11.70	13.50	15.30	17.11			

* TABLE 77. AIRCRAFT PERFORMANCE, LANDING (BOEING 767-300 ER FLAPS 25)

MAXIMUM ALLOWABLE LANDING WEIGHT (1 000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
55	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
60	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
65	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
70	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
75	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
80	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
85	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
90	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
95	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
100	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
105	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	313.0
110	320.0	320.0	320.0	320.0	320.0	320.0	320.0		

RUNWAY LENGTH (1 000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
220	4.69	4.80	4.92	5.04	5.17	5.30	5.43	5.56	5.69
225	4.77	4.88	5.00	5.13	5.26	5.39	5.53	5.66	5.79
230	4.85	4.96	5.09	5.21	5.35	5.48	5.62	5.76	5.90
235	4.93	5.05	5.17	5.30	5.43	5.57	5.71	5.86	6.00
240	5.01	5.13	5.26	5.39	5.52	5.66	5.80	5.95	6.10
245	5.09	5.21	5.34	5.47	5.61	5.75	5.90	6.05	6.20
250	5.17	5.30	5.43	5.56	5.70	5.84	5.99	6.14	6.30
255	5.25	5.38	5.51	5.65	5.79	5.93	6.08	6.24	6.40
260	5.33	5.46	5.60	5.74	5.88	6.02	6.18	6.34	6.50
265	5.41	5.55	5.68	5.82	5.97	6.12	6.27	6.43	6.60
270	5.49	5.63	5.77	5.91	6.06	6.21	6.36	6.53	6.70
275	5.57	5.71	5.86	6.00	6.15	6.30	6.46	6.62	6.80
280	5.65	5.80	5.94	6.09	6.24	6.39	6.55	6.72	6.89
285	5.73	5.88	6.03	6.17	6.33	6.48	6.64	6.81	6.99
290	5.81	5.96	6.11	6.26	6.42	6.57	6.74	6.91	7.09
295	5.89	6.04	6.20	6.35	6.51	6.67	6.83	7.01	7.19
300	5.97	6.12	6.28	6.43	6.59	6.76	6.93	7.11	7.29
305	6.05	6.20	6.36	6.52	6.68	6.85	7.02	7.20	7.39
310	6.12	6.28	6.44	6.61	6.77	6.94	7.12	7.30	7.50
315	6.20	6.36	6.53	6.69	6.86	7.03	7.21	7.40	7.60
320	6.27	6.44	6.61	6.77	6.95	7.12	7.31	7.50	7.71

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	MODEL 767-300 ER TYPICAL ENGINE/WEIGHT CONFIGURATIONS			
MAXIMUM DESIGN TAKEOFF WEIGHT	POUNDS	380,000	387,000	400,000	407,000
MAXIMUM DESIGN LANDING WEIGHT	POUNDS	300,000	300,000	320,000	320,000
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL 1/	POUNDS	205,038	205,038	206,238	209,638
AVERAGE FUEL CONSUMPTION 2/	POUNDS/MILES	19.2	19.2	19.2	19.2
TYPICAL MAXIMUM PASSENGER LOAD @ 200 POUNDS/PASSENGER	POUNDS	44,000 MIXED (24 FC + 46 BUS + 150 TOURIST) 58,000 ALL-ECONOMY (290 TOURIST)			
MAXIMUM STRUCTURAL PAYLOAD	POUNDS	84,157	84,057	92,957	96,557

1/ Based on 1.25 hours of reserve fuel.
2/ Average of flight manual and U.S. Department of Transportation "Aircraft Operating Cost and Performance Report" Vol. XIX, September 1985.

* TABLE 78. AIRCRAFT PERFORMANCE, LANDING (BOEING 767-300 ER FLAPS 30)

MAXIMUM ALLOWABLE LANDING WEIGHT (1 000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
55	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
60	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
65	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
70	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
75	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
80	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
85	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
90	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
95	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	315.5
100	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	307.0
105	320.0	320.0	320.0	320.0	320.0	320.0	320.0	312.0	299.0
110	320.0	320.0	320.0	320.0	320.0	320.0	315.0		

RUNWAY LENGTH (1 000 FEET)

WEIGHT 1000 LBS	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
220	4.37	4.46	4.56	4.66	4.78	4.91	5.04	5.17	5.29
225	4.45	4.54	4.64	4.75	4.88	5.00	5.13	5.27	5.39
230	4.53	4.62	4.73	4.84	4.97	5.10	5.23	5.36	5.49
235	4.61	4.71	4.81	4.93	5.06	5.19	5.33	5.46	5.59
240	4.69	4.79	4.90	5.02	5.15	5.29	5.43	5.56	5.69
245	4.77	4.87	4.99	5.11	5.24	5.38	5.52	5.66	5.79
250	4.85	4.96	5.07	5.20	5.33	5.47	5.61	5.75	5.88
255	4.93	5.04	5.16	5.29	5.42	5.57	5.71	5.85	5.98
260	5.01	5.12	5.24	5.38	5.51	5.66	5.80	5.94	6.08
265	5.09	5.21	5.33	5.46	5.60	5.75	5.90	6.04	6.18
270	5.17	5.29	5.41	5.55	5.69	5.84	5.99	6.14	6.28
275	5.25	5.37	5.50	5.64	5.78	5.93	6.08	6.23	6.38
280	5.33	5.45	5.59	5.72	5.87	6.02	6.17	6.33	6.49
285	5.41	5.54	5.67	5.81	5.96	6.11	6.27	6.43	6.59
290	5.49	5.62	5.76	5.90	6.05	6.20	6.36	6.53	6.70
295	5.57	5.70	5.84	5.98	6.13	6.29	6.46	6.63	6.81
300	5.65	5.79	5.93	6.07	6.22	6.38	6.55	6.73	6.92
305	5.73	5.87	6.01	6.16	6.31	6.47	6.65	6.84	7.04
310	5.82	5.95	6.10	6.24	6.40	6.56	6.74	6.94	7.16
315	5.90	6.04	6.18	6.33	6.49	6.66	6.84	7.05	7.28
320	5.98	6.12	6.26	6.41	6.57	6.75	6.94	7.16	7.41

*

* TABLE 79. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 767-300 ER FLAPS 5)

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1 000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	408.0	408.0	408.0	398.5	388.0	378.0	367.5	357.5	347.0
55	408.0	408.0	408.0	398.5	388.0	378.0	367.5	357.5	347.0
60	408.0	408.0	408.0	398.5	388.0	378.0	367.5	357.5	344.0
65	408.0	408.0	408.0	398.5	388.0	378.0	366.7	353.1	339.5
70	408.0	408.0	408.0	398.5	388.0	375.0	360.9	347.4	334.4
75	408.0	408.0	408.0	398.5	383.4	368.8	354.7	341.4	328.8
80	408.0	408.0	406.8	391.6	376.6	362.1	348.1	334.9	322.6
85	408.0	408.0	398.9	384.2	369.5	355.1	341.2	328.1	316.0
90	408.0	405.3	391.0	376.5	361.9	347.7	334.0	321.1	309.1
95	408.0	397.1	382.9	368.5	354.1	340.1	326.6	313.7	301.8
100	402.6	388.6	374.5	360.2	346.1	332.2	318.9	306.2	294.4
105	393.8	379.8	365.7	351.6	337.8	324.2	311.0	298.5	286.7
110	384.1	370.4	356.6	342.8	329.2	316.0	303.1	290.7	279.0

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	53.1	56.1	59.2	62.6	66.2	70.2	74.7	79.7	85.4
55	53.5	56.2	59.3	62.8	66.7	71.1	75.8	80.9	86.3
60	53.8	56.4	59.5	63.3	67.5	72.1	77.0	82.3	87.7
65	54.1	56.7	60.0	64.0	68.4	73.3	78.5	83.9	89.4
70	54.5	57.2	60.8	64.9	69.6	74.7	80.2	85.8	91.6
75	55.0	58.0	61.7	66.1	71.0	76.3	82.1	88.0	94.2
80	55.6	58.9	62.9	67.5	72.6	78.2	84.2	90.5	97.2
85	56.4	60.1	64.3	69.1	74.4	80.3	86.6	93.3	100.5
90	57.4	61.5	66.0	71.0	76.5	82.6	89.2	96.4	104.2
95	58.8	63.2	67.9	73.1	78.8	85.1	92.1	99.7	108.2
100	60.5	65.2	70.2	75.5	81.4	87.9	95.2	103.4	112.6
105	62.6	67.5	72.7	78.2	84.2	91.0	98.7	107.4	117.3
110	65.1	70.2	75.4	81.1	87.3	94.3	102.4	111.7	122.3

RUNWAY LENGTH (1 000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120	130
220	2.8	3.3	3.8	4.3	4.8	5.2	5.6	6.0	6.4
230	3.0	3.5	4.1	4.6	5.1	5.6	6.1	6.5	7.0
240	3.2	3.8	4.4	4.9	5.5	6.1	6.6	7.1	7.6
250	3.4	4.1	4.7	5.3	5.9	6.5	7.1	7.7	8.3
260	3.7	4.4	5.0	5.7	6.4	7.0	7.7	8.3	9.0
270	3.9	4.7	5.4	6.1	6.8	7.6	8.3	9.0	9.7
280	4.2	5.0	5.8	6.5	7.3	8.1	8.9	9.7	10.5
290	4.5	5.3	6.2	7.0	7.9	8.7	9.6	10.4	11.3
300	4.7	5.6	6.6	7.5	8.4	9.4	10.3	11.2	12.1
310	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0
320	5.3	6.4	7.5	8.6	9.7	10.7	11.8	12.9	13.9
330	5.6	6.8	8.0	9.2	10.3	11.5	12.6	13.8	14.8
340	6.0	7.2	8.5	9.8	11.0	12.3	13.5	14.7	
350	6.3	7.7	9.1	10.4	11.8	13.1	14.4		
360	6.7	8.2	9.6	11.1	12.6	14.0	15.3		
370	7.1	8.7	10.2	11.8	13.4	14.9			
380	7.5	9.2	10.9	12.6	14.2				
390	8.0	9.8	11.6	13.4	15.1				
400	8.5	10.3	12.3	14.2					
410	9.0	11.0	13.0	15.0					

* TABLE 80. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 767-300 ER FLAPS 15)

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1 000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	408.0	398.5	390.0	380.0	370.0	360.0	350.5	341.0	331.0
55	408.0	398.5	390.0	380.0	370.0	360.0	350.5	341.0	331.0
60	408.0	398.5	390.0	380.0	370.0	360.0	350.5	341.0	329.0
65	408.0	398.5	390.0	380.0	370.0	360.0	350.1	337.1	324.9
70	408.0	398.5	390.0	380.0	370.0	358.0	344.3	331.6	320.1
75	408.0	398.5	390.0	380.0	366.2	351.9	338.4	325.9	314.8
80	408.0	398.5	388.5	373.9	359.5	345.5	332.2	319.9	308.9
85	408.0	394.9	380.8	366.5	352.4	338.8	325.7	313.6	302.7
90	400.9	387.0	372.9	358.9	345.2	331.8	319.1	307.1	296.0
95	393.1	379.0	365.0	351.2	337.7	324.6	312.1	300.2	289.1
100	385.0	370.9	357.0	343.4	330.1	317.3	304.9	293.1	281.9
105	376.4	362.6	349.0	335.5	322.4	309.7	297.4	285.7	274.5
110	367.0	354.1	341.0	327.8	314.7	301.9	289.6	277.9	267.0

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	50.1	53.0	55.9	58.9	62.0	65.5	69.4	73.9	79.2
55	50.3	53.0	55.8	58.8	62.1	65.9	70.1	74.9	80.5
60	50.5	53.1	55.9	59.0	62.6	66.5	71.0	76.1	81.9
65	50.7	53.3	56.2	59.5	63.3	67.5	72.3	77.6	83.5
70	51.1	53.7	56.8	60.3	64.3	68.8	73.8	79.3	85.3
75	51.5	54.3	57.6	61.3	65.6	70.3	75.5	81.3	87.5
80	52.1	55.1	58.6	62.6	67.1	72.1	77.6	83.5	89.9
85	52.9	56.2	59.9	64.2	68.9	74.1	79.9	86.1	92.8
90	53.9	57.5	61.5	65.9	70.9	76.4	82.4	89.0	96.2
95	55.2	59.0	63.3	67.9	73.1	78.8	85.2	92.3	100.1
100	56.8	60.9	65.3	70.1	75.5	81.5	88.3	95.9	104.6
105	58.6	63.1	67.6	72.6	78.1	84.3	91.5	100.0	109.8
110	60.9	65.6	70.3	75.2	80.8	87.3	95.1	104.4	115.7

RUNWAY LENGTH (1 000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120
220	2.9	3.4	3.8	4.3	4.7	5.2	5.6	6.0
230	3.1	3.6	4.1	4.5	5.1	5.6	6.1	6.6
240	3.3	3.8	4.4	4.9	5.5	6.1	6.6	7.1
250	3.5	4.1	4.7	5.3	5.9	6.5	7.1	7.7
260	3.7	4.4	5.0	5.7	6.4	7.0	7.7	8.3
270	3.9	4.7	5.4	6.1	6.8	7.5	8.3	9.0
280	4.2	5.0	5.8	6.5	7.3	8.1	8.9	9.7
290	4.4	5.3	6.2	7.0	7.8	8.7	9.5	10.4
300	4.7	5.7	6.6	7.5	8.4	9.3	10.2	11.2
310	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
320	5.3	6.4	7.5	8.6	9.7	10.7	11.8	12.8
330	5.6	6.8	8.0	9.2	10.3	11.4	12.5	
340	5.9	7.3	8.6	9.8	11.0	12.2	13.3	
350	6.3	7.7	9.1	10.5	11.8	13.0		
360	6.7	8.2	9.7	11.1	12.5			
370	7.1	8.7	10.3	11.8	13.3			
380	7.5	9.2	10.9	12.6				
390	7.9	9.8	11.6	13.3				
400	8.4	10.3	12.2					
410	8.9	10.9	12.9					

* TABLE 81. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 767-300 ER FLAPS 20)

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1 000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	387.0	379.0	370.0	361.0	351.0	342.0	332.5	323.0	314.0
55	387.0	379.0	370.0	361.0	351.0	342.0	332.5	323.0	314.0
60	387.0	379.0	370.0	361.0	351.0	342.0	332.5	323.0	311.9
65	387.0	379.0	370.0	361.0	351.0	342.0	332.0	319.8	308.1
70	387.0	379.0	370.0	361.0	351.0	339.9	327.1	315.1	303.6
75	387.0	379.0	370.0	361.0	347.6	334.3	321.7	309.8	298.5
80	387.0	379.0	369.5	355.0	341.3	328.2	315.9	304.1	292.9
85	387.0	376.1	361.8	348.0	334.7	321.9	309.6	298.0	286.9
90	381.7	367.9	354.3	340.9	327.9	315.2	303.1	291.5	280.6
95	373.2	360.0	346.8	333.7	320.9	308.4	296.3	284.8	273.9
100	365.0	352.2	339.3	326.4	313.8	301.4	289.4	277.9	267.1
105	357.0	344.3	331.6	319.0	306.5	294.2	282.3	270.9	260.1
110	348.9	336.3	323.8	311.4	299.1	287.0	275.2	263.9	253.0

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	45.0	47.1	49.7	52.6	56.0	59.6	63.5	67.7	72.0
55	45.2	47.3	49.9	52.8	56.1	59.9	64.0	68.4	73.2
60	45.5	47.6	50.2	53.2	56.6	60.5	64.7	69.4	74.6
65	45.7	48.0	50.6	53.8	57.4	61.4	65.8	70.8	76.2
70	46.0	48.4	51.3	54.6	58.4	62.6	67.3	72.4	77.9
75	46.4	49.0	52.0	55.6	59.6	64.1	68.9	74.2	79.9
80	46.9	49.7	53.0	56.8	61.1	65.8	70.9	76.3	82.2
85	47.6	50.6	54.1	58.2	62.7	67.7	73.0	78.7	84.6
90	48.4	51.7	55.5	59.8	64.6	69.8	75.4	81.3	87.4
95	49.5	53.0	57.0	61.6	66.6	72.1	77.9	84.0	90.4
100	50.9	54.5	58.8	63.5	68.8	74.5	80.5	87.0	93.7
105	52.5	56.4	60.8	65.7	71.1	77.0	83.3	90.1	97.4
110	54.5	58.5	63.0	68.0	73.5	79.5	86.2	93.4	101.4

RUNWAY LENGTH (1 000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 40	50	60	70	80	90	100
220	2.1	2.7	3.2	3.7	4.2	4.7	5.2
230	2.3	2.9	3.5	4.0	4.5	5.0	5.5
240	2.5	3.1	3.8	4.3	4.9	5.4	5.9
250	2.7	3.4	4.0	4.7	5.2	5.8	6.4
260	2.9	3.6	4.3	5.0	5.6	6.3	6.9
270	3.1	3.9	4.6	5.4	6.0	6.8	7.5
280	3.3	4.2	5.0	5.7	6.5	7.3	8.1
290	3.6	4.4	5.3	6.1	7.0	7.9	8.8
300	3.8	4.7	5.6	6.6	7.5	8.5	9.5
310	4.0	5.0	6.0	7.0	8.0	9.1	10.2
320	4.2	5.3	6.4	7.5	8.6	9.7	10.8
330	4.5	5.6	6.8	8.0	9.2	10.3	
340	4.7	6.0	7.2	8.5	9.8	11.0	
350	5.0	6.3	7.7	9.1	10.4		
360	5.3	6.7	8.2	9.7	11.1		
370	5.6	7.1	8.7	10.3			
380	6.0	7.6	9.3	11.0			
390	6.4	8.0	9.9				
400	6.8	8.6	10.5				

TABLE 74. AIRCRAFT PERFORMANCE, TAKEOFF (L-1011-385-1)
RB.211-22B ENGINE, 22° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	430.0	428.0	418.0	407.9	397.8	387.7	377.7	367.9	358.3
55	430.0	428.0	418.0	407.9	397.8	387.7	377.7	367.9	358.3
60	430.0	428.0	418.0	407.9	397.8	387.7	377.7	366.7	353.0
65	430.0	428.0	418.0	407.9	397.8	387.7	374.6	360.5	346.8
70	430.0	428.0	418.0	407.9	397.4	382.5	368.0	353.9	340.3
75	430.0	428.0	418.0	405.2	389.9	375.2	360.9	347.0	333.6
80	430.0	428.5	412.5	397.0	382.0	367.5	353.5	339.9	326.7
85	430.0	419.5	403.8	388.5	373.8	359.6	345.8	332.6	319.8
90	426.5	410.4	394.9	379.9	365.4	351.5	338.1	325.2	312.8
95	417.1	401.2	385.9	371.2	357.0	343.4	330.4	317.8	305.7
100	407.7	392.1	377.0	362.6	348.8	335.5	322.8	310.5	298.8
105	398.5	383.1	368.3	354.2	340.7	327.8	315.3	303.4	291.8
110	389.6	374.4	360.0	346.2	333.1	320.4	308.3	296.5	285.1

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	50.7	53.7	57.0	60.6	64.5	68.8	73.6	78.7	84.4
55	51.0	54.1	57.5	61.2	65.1	69.5	74.2	79.4	85.0
60	51.5	54.6	58.0	61.7	65.7	70.1	74.9	80.2	87.4
65	51.9	55.0	58.4	62.1	66.2	70.7	76.2	82.9	90.4
70	52.2	55.4	58.8	62.6	66.7	72.4	78.8	85.8	93.6
75	52.6	55.8	59.2	63.6	69.0	74.9	81.6	88.9	96.9
80	53.0	56.2	60.8	65.8	71.4	77.6	84.5	92.1	100.5
85	54.1	58.3	62.9	68.2	74.0	80.5	87.7	95.6	104.3
90	56.0	60.3	65.2	70.7	76.8	83.5	91.0	99.2	108.3
95	57.9	62.5	67.7	73.4	79.7	86.8	94.5	103.1	112.5
100	60.0	64.9	70.2	76.2	82.8	90.2	98.2	107.2	117.0
105	62.2	67.3	73.0	79.2	86.1	93.7	102.2	111.5	121.7
110	64.5	69.9	75.9	82.4	89.6	97.5	106.3	116.0	126.7

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120	130
260	4.50	4.50	4.50	4.50	4.85	5.31	5.78	6.24	6.71
270	4.50	4.50	4.50	4.70	5.21	5.73	6.24	6.75	7.27
280	4.50	4.50	4.50	5.04	5.60	6.17	6.73	7.30	7.87
290	4.50	4.50	4.78	5.40	6.01	6.63	7.25	7.88	8.50
300	4.50	4.50	5.10	5.78	6.45	7.13	7.81	8.49	9.17
310	4.50	4.71	5.45	6.18	6.92	7.65	8.39	9.13	9.87
320	4.50	5.01	5.81	6.60	7.40	8.20	9.00	9.80	10.60
330	4.50	5.32	6.19	7.05	7.91	8.78	9.64	10.51	11.37
340	4.72	5.65	6.59	7.52	8.45	9.38	10.31	11.24	12.17
350	5.00	6.00	7.00	8.01	9.01	10.01	11.01	12.01	13.00
360	5.29	6.36	7.44	8.52	9.59	10.66	11.73	12.80	13.86
370	5.59	6.74	7.89	9.05	10.20	11.34	12.49	13.62	14.75
380	5.90	7.13	8.37	9.60	10.82	12.05	13.27	14.48	
390	6.23	7.55	8.86	10.17	11.48	12.78	14.07		
400	6.57	7.97	9.37	10.76	12.15	13.53	14.90		
410	6.93	8.41	9.89	11.37	12.84	14.31			
420	7.30	8.87	10.44	12.00	13.56				
430	7.68	9.34	11.00	12.66	14.30				

TABLE 75. AIRCRAFT PERFORMANCE, TAKEOFF (L-1011-385-1)
RB.211-22B ENGINE, 18° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	430.0	430.0	427.3	417.0	406.7	396.4	386.2	376.0	366.0
55	430.0	430.0	427.3	417.0	406.7	396.4	386.2	376.0	366.0
60	430.0	430.0	427.3	417.0	406.7	396.4	386.2	375.0	360.6
65	430.0	430.0	427.3	417.0	406.7	396.4	383.3	368.5	354.4
70	430.0	430.0	427.3	417.0	406.7	391.1	376.1	361.7	347.7
75	430.0	430.0	427.3	414.4	398.7	383.4	368.7	354.5	340.8
80	430.0	430.0	421.8	405.9	390.4	375.5	361.0	347.0	333.6
85	430.0	429.0	412.9	397.2	382.0	367.3	353.1	339.4	326.2
90	430.0	419.7	403.8	388.4	373.5	359.1	345.2	331.7	318.7
95	426.4	410.2	394.6	379.5	365.0	350.9	337.3	324.0	311.2
100	416.7	400.8	385.5	370.8	356.5	342.8	329.4	316.4	303.8
105	407.1	391.5	376.6	362.2	348.3	334.8	321.7	309.0	296.5
110	397.7	382.5	367.9	353.9	340.3	327.1	314.3	301.8	

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (FEET)								
°F	0	1000	2000	3000	4000	5000	6000	7000	8000
50	49.2	52.2	55.3	58.8	62.6	66.7	71.3	76.2	81.6
55	49.6	52.6	55.8	59.4	63.2	67.4	72.0	77.0	82.5
60	50.0	53.0	56.3	59.9	63.7	68.0	72.6	77.8	84.9
65	50.4	53.4	56.7	60.3	64.3	68.6	73.9	80.4	87.7
70	50.7	53.8	57.2	60.8	65.0	70.5	76.5	83.2	90.8
75	51.2	54.3	57.7	62.1	67.2	72.9	79.1	86.1	94.0
80	51.7	54.9	59.2	64.1	69.5	75.4	81.9	89.2	97.3
85	52.4	56.6	61.2	66.3	71.8	78.0	84.8	92.4	100.8
90	54.2	58.5	63.3	68.5	74.3	80.7	87.9	95.8	104.5
95	56.1	60.5	65.4	70.9	76.9	83.6	91.1	99.3	108.4
100	58.0	62.6	67.7	73.4	79.7	86.7	94.5	103.0	112.5
105	60.0	64.8	70.1	76.0	82.6	89.9	98.0	107.0	116.8
110	62.0	67.1	72.7	78.9	85.7	93.4	101.8	111.1	

RUNWAY LENGTH (1000 FEET)

WEIGHT	REFERENCE FACTOR "R"								
1000 LBS	40	50	60	70	80	90	100	110	120
260	4.50	4.50	4.50	4.50	4.65	5.16	5.65	6.13	6.63
270	4.50	4.50	4.50	4.50	4.98	5.53	6.07	6.62	7.18
280	4.50	4.50	4.50	4.72	5.34	5.94	6.54	7.14	7.77
290	4.50	4.50	4.50	5.05	5.72	6.38	7.03	7.70	8.40
300	4.50	4.50	4.66	5.40	6.13	6.85	7.57	8.31	9.07
310	4.50	4.50	4.97	5.77	6.56	7.34	8.13	8.94	9.78
320	4.50	4.50	5.30	6.16	7.01	7.87	8.73	9.61	10.51
330	4.50	4.70	5.64	6.57	7.49	8.42	9.35	10.30	11.28
340	4.50	4.99	5.99	6.99	7.99	8.99	10.01	11.03	12.06
350	4.50	5.29	6.36	7.43	8.51	9.60	10.68	11.77	12.86
360	4.50	5.60	6.74	7.90	9.06	10.22	11.39	12.54	13.68
370	4.73	5.92	7.14	8.38	9.63	10.87	12.11	13.33	14.51
380	4.99	6.26	7.56	8.89	10.22	11.55	12.86	14.13	
390	5.26	6.61	8.00	9.41	10.83	12.24	13.62	14.94	
400	5.54	6.97	8.45	9.96	11.47	12.96	14.40		
410	5.84	7.35	8.92	10.53	12.13	13.70			
420	6.14	7.74	9.41	11.11	12.81	14.45			
430	6.46	8.16	9.93	11.73	13.51				

TABLE 76. AIRCRAFT PERFORMANCE, TAKEOFF (L-1011-385-1) RB.211-22B ENGINE, 10° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 LBS)

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	430.0	430.0	430.0	430.0	423.7	413.2	402.5	392.0	381.8
55	430.0	430.0	430.0	430.0	423.7	413.2	402.5	392.0	381.8
60	430.0	430.0	430.0	430.0	423.7	413.2	402.5	390.4	375.8
65	430.0	430.0	430.0	430.0	423.7	413.2	399.2	384.0	369.3
70	430.0	430.0	430.0	430.0	423.7	407.6	392.1	376.9	362.3
75	430.0	430.0	430.0	430.0	415.6	399.9	384.4	369.4	355.0
80	430.0	430.0	430.0	423.3	407.3	391.6	376.4	361.6	347.4
85	430.0	430.0	430.0	414.3	398.4	383.0	368.1	353.6	339.7
90	430.0	430.0	421.0	404.9	389.3	374.2	359.6	345.5	332.0
95	430.0	427.6	411.3	395.5	380.2	365.4	351.2	337.5	324.2
100	430.0	417.6	401.6	386.1	371.2	356.8	342.9	329.5	316.6
105	424.2	407.9	392.2	377.1	362.5	348.5	334.9	321.9	309.2
110	414.8	398.8	383.4	368.6	354.4	340.6	327.4	314.6	

REFERENCE FACTOR "R"

TEMP °F	AIRPORT ELEVATION (FEET) 0	1000	2000	3000	4000	5000	6000	7000	8000
50	53.2	56.3	59.8	63.5	67.6	72.2	77.2	82.7	88.7
55	53.7	56.9	60.4	64.2	68.3	72.9	77.9	83.4	89.5
60	54.1	57.4	60.9	64.7	68.9	73.6	78.6	84.2	91.6
65	54.5	57.8	61.4	65.2	69.5	74.2	79.7	86.7	94.6
70	54.9	58.2	61.8	65.8	69.7	75.7	82.3	89.6	97.8
75	55.3	58.7	62.3	66.5	72.1	78.2	85.1	92.7	101.2
80	55.7	59.2	63.6	68.8	74.6	81.0	88.2	96.1	104.9
85	56.7	61.0	65.9	71.3	77.3	84.1	91.5	99.8	108.9
90	58.6	63.2	68.2	73.9	80.3	87.3	95.1	103.7	113.1
95	60.6	65.4	70.8	76.7	83.4	90.7	98.8	107.8	117.6
100	62.8	67.8	73.5	79.7	86.7	94.3	102.8	112.1	122.4
105	65.1	70.5	76.4	82.9	90.1	98.1	106.9	116.7	127.4
110	67.6	73.3	79.5	86.3	93.7	102.0	111.2	121.4	

RUNWAY LENGTH (1000 FEET)

WEIGHT 1000 LBS	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120	130
260	4.50	4.50	4.50	4.66	5.17	5.67	6.17	6.67	7.16
270	4.50	4.50	4.50	5.00	5.56	6.11	6.67	7.21	7.76
280	4.50	4.50	4.75	5.32	5.98	6.59	7.19	7.80	8.39
290	4.50	4.50	5.08	5.75	6.42	7.09	7.75	8.41	9.07
300	4.50	4.69	5.42	6.16	6.89	7.61	8.34	9.06	9.78
310	4.50	4.99	5.79	6.58	7.38	8.17	8.96	9.75	10.53
320	4.50	5.31	6.17	7.03	7.89	8.75	9.61	10.47	11.32
330	4.71	5.64	6.58	7.51	8.44	9.37	10.30	11.23	12.16
340	4.99	5.99	7.00	8.00	9.00	10.01	11.01	12.02	13.03
350	5.28	6.36	7.44	8.52	9.60	10.68	11.76	12.85	13.94
360	5.58	6.75	7.90	9.06	10.22	11.38	12.54	13.71	14.89
370	5.90	7.15	8.39	9.62	10.86	12.10	13.35	14.61	15.89
380	6.23	7.56	8.89	10.21	11.53	12.86	14.20	15.55	16.93
390	6.57	8.00	9.41	10.82	12.23	13.65	15.08	16.53	
400	6.93	8.45	9.95	11.45	12.96	14.47	16.00		
410	7.30	8.91	10.52	12.11	13.71	15.32	16.95		
420	7.68	9.40	11.10	12.79	14.49	16.20			
430	8.07	9.90	11.70	13.50	15.30	17.11			

SECTION 2. METRIC TABLES

* 4. GENERAL NOTES. The airplane performance tables in this section support the United States endeavor towards metrication. The ultimate goal of this activity is the unification of measurements used in both domestic and international aviation. These tables have the same format as previous tables but substitute degrees Celsius (°C) for Fahrenheit (°F), kilograms (kg) for pounds, and meters (m) for feet.

5. CONVERSION FACTORS. Corresponding tables between the two systems have the same table numbers to facilitate general table usage and flexibility. To facilitate conversion data elements of length, temperature, and weight, the basic conversion factors are listed below:

Kilometers:	1.6093 x Statute miles
Kilograms:	0.4536 x Pounds
Meters:	0.3048 x Feet

Degree F to Degrees C

Degress Celsius

°F	0	1	2	3	4	5	6	7	8	9
50	10.0	10.6	11.1	11.7	12.2	12.8	13.3	13.9	14.4	15.0
60	15.6	16.1	16.7	17.2	17.8	18.3	18.9	19.4	20.0	20.6
70	21.1	21.7	22.2	22.8	23.3	23.9	24.4	25.0	25.6	26.1
80	26.7	27.2	27.8	28.3	28.9	29.4	30.0	30.6	31.1	31.7
90	32.2	32.8	33.3	33.9	34.4	35.0	35.6	36.1	36.7	37.2
100	37.8	38.3	38.9	39.4	40.0	40.6	41.1	41.7	42.2	42.8
110	43.3	43.9	44.4	45.0	45.6	46.1	46.7	47.2	47.8	48.3

*

TABLE 3M. AIRCRAFT PERFORMANCE, LANDING (BOEING 727-100 SERIES) JT8D-7 ENGINE, 40° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	62.4	62.4	62.4	62.4	60.6	56.9
12	62.4	62.4	62.4	62.4	60.5	56.8
14	62.4	62.4	62.4	62.4	60.4	56.7
16	62.4	62.4	62.4	62.4	60.3	56.7
18	62.4	62.4	62.4	62.4	60.2	56.6
20	62.4	62.4	62.4	62.4	60.1	56.5
22	62.4	62.4	62.4	62.4	59.8	56.2
24	62.4	62.4	62.4	62.4	59.4	55.9
26	62.4	62.4	62.4	62.4	58.9	55.5
28	62.4	62.4	62.4	62.2	58.4	55.0
30	62.4	62.4	62.4	61.5	57.8	54.4
32	62.4	62.4	62.4	60.7	57.1	53.7
34	62.4	62.4	62.4	59.9	56.3	53.0
36	62.4	62.4	62.3	59.0	55.4	52.2
38	62.4	62.4	61.3	57.9	54.4	51.3
40	62.4	62.4	60.3	56.8	53.4	50.3
42	62.4	62.4	59.1	55.6	52.2	49.2
44	62.4	61.8	57.9	54.3	51.0	48.0

RUNWAY LENGTH (METERS)

WEIGHT	AIRPORT ELEVATION (METERS)					
1000 KG	0	500	1000	1500	2000	2500
46	1190	1225	1270	1320	1370	1415
48	1225	1265	1310	1360	1415	1460
50	1265	1305	1350	1400	1455	1510
52	1305	1345	1395	1445	1500	1555
54	1340	1385	1435	1490	1545	1605
56	1380	1430	1480	1535	1595	1655
58	1425	1475	1530	1585	1645	1705
60	1465	1520	1575	1635	1695	1760
62	1505	1565	1625	1685	1750	1810
64	1550	1610	1675	1740	1805	1865

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	ADVANCED PASSENGERS	OPTIONS QUICK CHANGE
MAXIMUM TAKEOFF WEIGHT	KG	72 600	76 700
MAXIMUM LANDING WEIGHT			
FLAPS 30°	KG	64 637	64 637
FLAPS 40°	KG	62 369	62 369
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL	KG	45 964 48 748	45 964 1/ 48 748 2/
AVERAGE FUEL CONSUMPTION	KG/KM	5.35	5.35
TYPICAL MAXIMUM PASSENGER LOAD AT 90.7 KG/PASSENGER	KG	11 338	8 526
MAXIMUM STRUCTURAL PAYLOAD	KG	14 700	18 600

1/ Based on 1.25 hours of reserve fuel.
2/ Based on 2.00 hours of reserve fuel.

TABLE 4M. AIRCRAFT PERFORMANCE, LANDING (BOEING 727-100 SERIES)
JT8D-7 ENGINE, 30° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	64.6	64.6	64.6	64.6	64.6	64.6
12	64.6	64.6	64.6	64.6	64.6	64.6
14	64.6	64.6	64.6	64.6	64.6	64.6
16	64.6	64.6	64.6	64.6	64.6	64.6
18	64.6	64.6	64.6	64.6	64.6	64.6
20	64.6	64.6	64.6	64.6	64.6	64.6
22	64.6	64.6	64.6	64.6	64.6	64.6
24	64.6	64.6	64.6	64.6	64.6	64.6
26	64.6	64.6	64.6	64.6	64.6	64.6
28	64.6	64.6	64.6	64.6	64.6	63.7
30	64.6	64.6	64.6	64.6	64.6	62.6
32	64.6	64.6	64.6	64.6	64.5	61.5
34	64.6	64.6	64.6	64.6	63.9	60.4
36	64.6	64.6	64.6	64.6	63.2	59.4
38	64.6	64.6	64.6	64.6	62.4	58.4
40	64.6	64.6	64.6	64.6	61.6	57.4
42	64.6	64.6	64.6	64.6	60.7	56.5
44	64.6	64.6	64.6	63.8	59.7	55.7

RUNWAY LENGTH (METERS)

WEIGHT	AIRPORT ELEVATION (METERS)					
1000 KG	0	500	1000	1500	2000	2500
46	1310	1365	1405	1440	1480	1535
48	1345	1395	1440	1485	1535	1585
50	1385	1430	1480	1530	1585	1640
52	1425	1465	1520	1580	1640	1695
54	1465	1505	1560	1625	1690	1745
56	1510	1550	1605	1675	1740	1800
58	1550	1590	1655	1720	1795	1855
60	1590	1640	1700	1770	1845	1910
62	1635	1685	1750	1820	1895	1960
64	1675	1735	1805	1875	1945	2015
66	1720	1790	1855	1925	1995	2028

TABLE 5M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-100 SERIES) JT8D-7 ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	74.2	70.0	65.9	61.9	58.2	54.5
12	73.7	69.5	65.4	61.5	57.7	54.2
14	72.6	68.1	64.1	60.4	57.1	54.0
16	72.6	68.1	64.1	60.4	57.1	54.0
18	72.6	68.1	64.1	60.4	57.1	54.0
20	72.6	68.1	64.1	60.4	57.1	54.0
22	72.6	68.1	64.1	60.4	57.1	54.0
24	72.6	68.1	64.1	60.4	57.1	54.0
26	72.6	68.1	64.1	60.4	57.1	54.0
28	72.6	68.1	64.1	60.4	57.1	53.4
30	71.9	67.5	63.5	59.8	56.2	52.6
32	70.7	66.5	62.5	58.8	55.3	51.8
34	69.6	65.4	61.6	57.9	54.4	51.0
36	68.4	64.4	60.6	56.9	53.5	50.2
38	67.2	63.3	59.6	56.0	52.6	49.3
40	66.1	62.3	58.6	55.1	51.7	48.5
42	64.9	61.2	57.6	54.1	50.8	47.6
44	63.8	60.2	56.6	53.2	49.9	46.7

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	36.5	39.7	44.1	49.8	57.0	65.6
12	36.5	40.2	44.8	50.7	57.9	66.8
14	36.5	40.7	45.6	51.5	58.9	67.9
16	36.5	41.1	46.3	52.4	59.3	69.0
18	36.5	41.1	46.3	52.4	59.3	69.0
20	36.5	41.1	46.3	52.4	59.3	69.0
22	36.6	41.2	46.3	52.4	59.3	69.2
24	36.7	41.3	46.3	52.4	60.1	69.9
26	37.3	41.8	47.0	53.2	61.1	70.9
28	37.9	42.5	47.8	54.2	62.3	72.2
30	38.6	43.2	48.7	55.4	63.7	74.0
32	39.4	44.1	49.8	56.8	65.4	76.0
34	40.3	45.1	51.0	58.3	67.3	78.5
36	41.3	46.2	52.3	60.0	69.5	81.3
38	42.3	47.4	53.8	61.8	71.9	84.4
40	43.4	48.8	55.4	63.9	74.5	87.9
42	44.7	50.2	57.2	66.1	77.4	91.8
44	46.0	51.8	59.1	68.4	80.5	96.0

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 36	46	56	66	76	86	96
44	820	995	1155	1305	1445	1575	1700
46	860	1050	1235	1405	1565	1715	1850
48	910	1120	1325	1520	1710	1880	2040
50	960	1195	1430	1655	1875	2080	2270
52	1020	1280	1545	1805	2060	2310	2540
54	1085	1375	1675	1975	2275	2565	2850
56	1155	1480	1820	2160	2510	2855	
58	1230	1595	1975	2365	2765		
60	1310	1720	2145	2585			
62	1400	1855	2330	2825			
64	1490	1995	2525				
66	1590	2150	2735				
68	1695	2310	2955				
70	1805	2485					
72	1920	2665					
74	2040	2855					
76	2170						

TABLE 6M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-100 SERIES)
JT8D-7 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	76.7	76.7	74.6	70.1	65.7	61.8
12	76.7	76.7	73.9	69.6	65.4	61.3
14	76.7	76.7	72.3	68.3	64.6	61.1
16	76.7	76.7	72.3	68.3	64.6	61.1
18	76.7	76.7	72.3	68.3	64.6	61.1
20	76.7	76.7	72.3	68.3	64.6	61.1
22	76.7	76.7	72.3	68.3	64.6	61.1
24	76.7	76.7	72.3	68.3	64.6	61.1
26	76.7	76.7	72.3	68.3	64.6	61.1
28	76.7	76.7	72.3	68.3	64.3	60.3
30	76.7	76.2	71.6	67.3	63.2	59.3
32	76.7	75.0	70.5	66.3	62.2	58.4
34	76.7	73.8	69.4	65.2	61.2	57.4
36	76.7	72.6	68.3	64.2	60.2	56.5
38	75.8	71.4	67.2	63.1	59.2	55.6
40	74.6	70.3	66.1	62.1	58.2	54.6
42	73.4	69.1	65.0	61.0	57.3	53.7
44	72.2	67.9	63.8	60.0	56.3	52.8

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	43.7	47.5	52.9	59.7	67.9	77.4
12	44.0	48.4	54.1	61.1	69.4	79.2
14	44.3	49.3	55.3	62.4	70.9	81.0
16	44.6	50.2	56.5	63.7	72.3	82.8
18	44.6	50.2	56.5	63.7	72.3	82.8
20	44.6	50.2	56.5	63.7	72.3	82.8
22	44.6	50.2	56.5	63.7	72.3	82.8
24	44.7	50.3	56.6	63.9	72.6	82.9
26	45.4	50.9	57.3	64.8	73.6	84.0
28	46.2	51.6	58.1	65.8	74.9	85.4
30	47.1	52.5	59.1	67.0	76.3	87.0
32	48.1	53.5	60.3	68.4	78.0	88.9
34	49.1	54.7	61.7	70.0	79.8	91.0
36	50.2	56.0	63.2	71.8	81.9	93.4
38	51.4	57.5	64.9	73.8	84.1	96.1
40	52.7	59.1	66.8	75.9	86.6	99.0
42	54.1	60.8	68.8	78.2	89.3	102.2
44	55.5	62.7	71.0	80.7	92.1	105.6

RUNWAY LENGTH (METERS)

WEIGHT	REFERENCE FACTOR "R"							
1000 KG	42	52	62	72	82	92	102	112
44	845	995	1160	1335	1505	1670	1820	1950
46	900	1075	1260	1450	1635	1820	1990	2135
48	960	1155	1360	1570	1780	1980	2170	2340
50	1025	1245	1470	1700	1930	2150	2360	2560
52	1095	1340	1590	1840	2085	2330	2570	2795
54	1170	1440	1715	1985	2255	2525	2790	3045
56	1250	1545	1845	2140	2435	2730	3020	3310
58	1330	1655	1980	2300	2625	2945	3265	3595
60	1420	1775	2125	2470	2820	3170	3525	
62	1510	1895	2275	2650	3025	3410		
64	1610	2025	2430	2835	3245			
66	1710	2155	2595	3030	3470			
68	1815	2295	2765	3230				
70	1925	2440	2945	3445				
72	2040	2590	3125					
74	2160	2745	3315					
76	2285	2905	3515					
78	2410	3075						

TABLE 7M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-100 SERIES) JT8D-7 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	76.7	76.7	76.7	75.0	70.2	66.2
12	76.7	76.7	76.7	74.5	70.0	66.1
14	76.7	76.7	76.7	72.9	68.7	65.3
16	76.7	76.7	76.7	72.9	68.7	65.3
18	76.7	76.7	76.7	72.9	68.7	65.3
20	76.7	76.7	76.7	72.9	68.7	65.3
22	76.7	76.7	76.7	72.9	68.7	65.3
24	76.7	76.7	76.7	72.9	68.7	65.3
26	76.7	76.7	76.7	72.9	68.7	65.3
28	76.7	76.7	76.7	72.9	68.7	64.6
30	75.6	76.7	75.6	72.1	67.7	63.6
32	76.7	76.7	74.8	71.0	66.7	62.6
34	76.7	76.7	74.0	69.9	65.7	61.6
36	76.7	76.7	73.1	68.8	64.6	60.6
38	76.7	76.5	72.0	67.7	63.6	59.6
40	76.7	75.5	70.9	66.6	62.5	58.6
42	76.7	74.1	69.7	65.5	61.5	57.7
44	76.5	72.5	68.4	64.4	60.4	56.7

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	56.3	61.8	69.8	79.9	91.7	104.6
12	56.5	62.8	71.2	81.4	93.3	106.7
14	56.8	63.8	72.6	83.0	95.0	108.7
16	57.1	64.9	73.9	84.5	96.7	110.8
18	57.1	64.9	73.9	84.5	96.7	110.8
20	57.1	64.9	73.9	84.5	96.7	110.8
22	57.1	64.9	73.9	84.5	96.7	110.8
24	57.5	65.2	74.1	84.5	96.9	111.5
26	58.4	66.1	75.2	85.8	98.4	113.3
28	59.5	67.3	76.5	87.4	100.2	115.4
30	60.7	68.7	78.1	89.2	102.4	117.8
32	62.1	70.2	79.9	91.3	104.8	120.5
34	63.6	72.0	82.0	93.7	107.5	123.6
36	65.3	74.0	84.3	96.4	110.5	126.9
38	67.2	76.2	86.8	99.3	113.8	130.6
40	69.2	78.6	89.6	102.5	117.4	134.5
42	71.5	81.2	92.7	106.0	121.3	138.8
44	73.8	84.0	96.0	109.8	125.5	143.3

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 60	70	80	90	100	110	120	130	140
46	975	1160	1335	1495	1655	1805	1960	2120	2285
48	1070	1270	1455	1635	1805	1980	2150	2325	2510
50	1175	1380	1585	1780	1970	2160	2350	2545	2740
52	1280	1500	1720	1930	2140	2350	2560	2770	2985
54	1390	1630	1860	2090	2320	2550	2780	3010	3240
56	1505	1760	2010	2260	2510	2760	3010	3260	3510
58	1625	1900	2170	2440	2710	2980	3250	3520	3790
60	1750	2045	2335	2625	2915	3205	3500	3790	4080
62	1880	2195	2505	2820	3130	3445	3760	4070	4385
64	2015	2350	2685	3020	3355	3695	4030	4365	
66	2155	2515	2875	3235	3590	3950	4310		
68	2300	2685	3070	3450	3835	4215			
70	2450	2860	3270	3680	4085	4495			
72	2605	3045	3480	3915	4345				
74	2765	3235	3695	4155					
76	2930	3430	3920	4410					
78	3100	3630	4150						

TABLE 18M. AIRCRAFT PERFORMANCE, LANDING (BOEING 727-200 SERIES)
JT8D-15 ENGINE, 40° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	64.6	64.6	64.6	64.6	64.6	64.6
12	64.6	64.6	64.6	64.6	64.6	64.6
14	64.6	64.6	64.6	64.6	64.6	64.6
16	64.6	64.6	64.6	64.6	64.6	64.6
18	64.6	64.6	64.6	64.6	64.6	64.6
20	64.6	64.6	64.6	64.6	64.6	64.6
22	64.6	64.6	64.6	64.6	64.6	64.6
24	64.6	64.6	64.6	64.6	64.6	64.6
26	64.6	64.6	64.6	64.6	64.6	64.6
28	64.6	64.6	64.6	64.6	64.6	64.3
30	64.6	64.6	64.6	64.6	64.6	63.6
32	64.6	64.6	64.6	64.6	64.6	62.8
34	64.6	64.6	64.6	64.6	64.6	62.0
36	64.6	64.6	64.6	64.6	64.6	61.0
38	64.6	64.6	64.6	64.6	63.8	60.0
40	64.6	64.6	64.6	64.6	62.6	58.8
42	64.6	64.6	64.6	64.6	61.3	57.6
44	64.6	64.6	64.6	63.8	59.9	56.2

RUNWAY LENGTH (METERS)

WEIGHT	AIRPORT ELEVATION (METERS)					
1000 KG	0	500	1000	1500	2000	2500
50	1220	1270	1310	1355	1400	1465
52	1260	1310	1350	1400	1450	1510
54	1300	1350	1395	1445	1500	1560
56	1345	1390	1440	1490	1545	1610
58	1385	1435	1485	1540	1595	1660
60	1425	1475	1530	1590	1650	1715
62	1470	1525	1580	1640	1700	1765
64	1510	1570	1630	1690	1755	1820
66	1555	1615	1680	1740	1805	1875

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE		ADVANCED OPTIONS	
MAXIMUM TAKEOFF WEIGHT	KG	82 328	86 411	89 359
MAXIMUM LANDING WEIGHT	KG			
FLAPS 30°		70 081	72 576	72 576
FLAPS 40°		64 638	64 638	64 638
TYPICAL OPERATING EMPTY		49 538	49 784	51 182 1/
WEIGHT PLUS RESERVE FUEL	KG	52 682	52 927	54 325 2/
AVERAGE FUEL CONSUMPTION	KG/KM	6.20	6.20	6.20
TYPICAL MAXIMUM PASSENGER LOAD AT 90.7 KG/PASSENGER	KG	14 697	15 876	17 146
MAXIMUM STRUCTURAL PAYLOAD	KG	18 298	18 959	19 376

1/ Based on 1.25 hours of reserve fuel.
2/ Based on 2.00 hours of reserve fuel.

TABLE 19M. AIRCRAFT PERFORMANCE, LANDING (BOEING 727-200 SERIES)
JT8D-15 ENGINE, 30° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	72.5	72.5	72.5	72.5	72.5	72.5
12	72.5	72.5	72.5	72.5	72.5	72.5
14	72.5	72.5	72.5	72.5	72.5	72.5
16	72.5	72.5	72.5	72.5	72.5	72.5
18	72.5	72.5	72.5	72.5	72.5	72.5
20	72.5	72.5	72.5	72.5	72.5	72.5
22	72.5	72.5	72.5	72.5	72.5	72.5
24	72.5	72.5	72.5	72.5	72.5	72.5
26	72.5	72.5	72.5	72.5	72.5	72.5
28	72.5	72.5	72.5	72.5	72.5	72.5
30	72.5	72.5	72.5	72.5	72.5	72.4
32	72.5	72.5	72.5	72.5	72.5	71.5
34	72.5	72.5	72.5	72.5	72.5	70.5
36	72.5	72.5	72.5	72.5	72.5	69.4
38	72.5	72.5	72.5	72.5	72.5	68.2
40	72.5	72.5	72.5	72.5	71.3	66.9
42	72.5	72.5	72.5	72.5	69.8	65.6
44	72.5	72.5	72.5	7 .5	68.2	64.1

RUNWAY LENGTH (METERS)

WEIGHT	AIRPORT ELEVATION (METERS)					
1000 KG	0	500	1000	1500	2000	2500
50	1265	1295	1330	1375	1420	1470
52	1290	1325	1365	1410	1455	1505
54	1320	1355	1395	1445	1490	1540
56	1350	1390	1430	1480	1530	1580
58	1380	1425	1470	1515	1570	1620
60	1415	1460	1505	1555	1610	1665
62	1450	1495	1545	1595	1650	1710
64	1485	1535	1585	1640	1695	1755
66	1520	1575	1630	1680	1740	1805
68	1560	1620	1675	1725	1785	1855
70	1600	1665	1720	1775	1830	1905
72	1640	1710	1765	1820	1880	1960
74	1680	1755	1815	1870	1930	2015

TABLE 20M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES) JT8D-15 ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	86.2	81.0	76.5	72.2	67.8	63.7
12	83.7	81.0	76.5	72.2	67.8	63.7
14	83.7	81.0	76.5	72.2	67.8	63.7
16	83.7	81.0	76.5	72.2	67.8	63.7
18	83.7	81.0	76.5	72.2	67.8	63.7
20	83.7	81.0	76.5	72.2	67.8	63.7
22	83.7	81.0	76.5	72.2	67.8	63.7
24	83.7	81.0	76.5	72.2	67.8	63.7
26	83.7	79.9	75.0	70.9	66.8	62.6
28	83.3	78.9	74.0	69.9	65.8	61.7
30	82.9	77.6	73.0	68.9	64.8	60.9
32	81.5	76.5	72.0	67.9	63.9	60.0
34	80.2	75.4	71.0	66.9	62.9	59.1
36	78.9	74.3	69.9	65.9	62.0	58.2
38	77.7	73.1	68.9	64.9	61.0	57.3
40	76.5	72.0	67.8	63.9	60.1	56.4
42	75.3	70.9	66.7	62.8	59.1	55.5
44	74.3	69.8	65.7	61.8	58.2	54.6

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	53.6	58.2	65.5	75.3	86.5	98.2
12	53.7	58.3	65.7	75.4	86.6	98.3
14	53.7	58.6	66.0	75.5	86.6	98.7
16	53.8	59.0	66.5	75.9	86.9	99.4
18	53.9	59.5	67.0	76.4	87.5	100.2
20	54.2	60.1	67.8	77.1	88.2	101.3
22	54.3	60.8	68.6	78.0	89.3	102.6
24	54.8	61.7	69.6	79.1	90.5	104.2
26	55.5	62.6	70.8	80.4	92.0	105.9
28	56.3	63.7	72.0	81.9	93.7	108.0
30	57.3	64.9	73.5	83.5	95.6	110.2
32	58.4	66.2	75.0	85.4	97.7	112.7
34	59.7	67.6	76.7	87.4	100.1	115.4
36	61.1	69.2	78.5	89.6	102.7	118.3
38	62.6	70.8	80.5	92.0	105.5	121.5
40	64.3	72.6	82.6	94.6	108.6	124.9
42	66.2	74.5	84.9	97.3	111.9	128.6
44	68.2	76.5	87.3	100.3	115.4	132.5

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 55	65	75	85	95	105	115	125	135
58	1065	1275	1465	1640	1810	1975	2135	2300	2465
60	1140	1355	1560	1750	1935	2115	2290	2475	2655
62	1215	1445	1660	1865	2065	2260	2460	2650	2870
64	1295	1535	1765	1985	2205	2420	2635	2855	3085
66	1380	1630	1875	2115	2350	2595	2820	3065	3310
68	1465	1735	1995	2250	2505	2760	3020	3230	3545
70	1555	1840	2120	2395	2670	2945	3225	3505	3795
72	1645	1950	2250	2545	2845	3140	3440	3740	4040
74	1740	2065	2385	2705	3025	3345	3665	3985	
76	1840	2180	2525	2870	3215	3560	3900		
78	1940	2305	2675	3045	3415	3780			
80	2045	2435	2825	3225	3620	4010			
82	2150	2565	2985	3410	3835				
84	2260	2700	3150	3605	4055				
86	2370	2845	3320	3805					
88	2490	2990	3500	4015					
90	2605	3140	3680						

TABLE 21M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES) JT8D-15 ENGINE, 20° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	89.4	86.8	81.8	77.4	72.8	68.1
12	89.4	86.8	81.8	77.4	72.8	68.1
14	89.4	86.8	81.8	77.4	72.8	68.1
16	89.4	86.8	81.8	77.4	72.8	68.1
18	89.4	86.8	81.8	77.4	72.8	68.1
20	89.4	86.8	81.8	77.4	72.8	68.1
22	89.4	86.8	81.8	77.4	72.8	68.1
24	89.4	86.8	81.8	77.4	72.8	68.1
26	89.4	85.4	80.3	75.7	71.4	66.9
28	89.4	84.2	79.2	74.7	70.4	66.0
30	88.5	83.0	78.1	73.7	69.4	65.1
32	87.1	81.9	77.1	72.6	68.3	64.1
34	85.7	80.7	76.0	71.5	67.3	63.2
36	84.4	79.5	74.8	70.4	66.3	62.3
38	83.1	78.3	73.7	69.4	65.2	61.4
40	81.8	77.1	72.6	68.2	64.2	60.5
42	80.6	75.9	71.4	67.1	63.2	59.6
44	79.4	74.7	70.2	66.0	62.1	58.7

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	55.4	60.7	68.6	78.5	89.8	101.9
12	55.4	60.8	68.7	78.6	89.9	102.0
14	55.5	61.1	68.9	78.6	89.9	102.3
16	55.6	61.4	69.3	79.0	90.2	102.9
18	55.6	61.9	69.9	79.5	90.8	103.7
20	56.0	62.6	70.6	80.2	91.6	104.8
22	56.4	63.3	71.5	81.1	92.6	106.2
24	57.1	64.2	72.5	82.2	93.9	107.8
26	57.8	65.2	73.6	83.6	95.4	109.6
28	58.7	66.3	74.9	85.1	97.2	111.8
30	59.7	67.6	76.4	86.8	99.2	114.1
32	60.9	68.9	78.0	88.7	101.4	116.7
34	62.2	70.4	79.8	90.8	103.9	119.6
36	63.6	72.0	81.7	93.1	106.6	122.7
38	65.2	73.8	83.8	95.6	109.5	126.1
40	66.9	75.6	86.0	98.2	112.7	129.7
42	68.7	77.6	88.4	101.1	116.1	133.6
44	70.7	79.7	90.9	104.2	119.8	137.7

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 55	65	75	85	95	105	115	125	135
58	1100	1300	1485	1665	1830	1995	2155	2315	2475
60	1165	1380	1575	1770	1950	2130	2305	2480	2660
62	1240	1460	1675	1880	2080	2275	2470	2660	2855
64	1315	1550	1775	2000	2215	2430	2645	2855	3065
66	1395	1640	1885	2125	2360	2595	2825	3060	3290
68	1475	1740	2000	2260	2515	2770	3020	3275	3525
70	1560	1840	2120	2400	2675	2950	3225	3500	3775
72	1650	1950	2250	2545	2845	3145	3440	3740	4035
74	1740	2060	2380	2700	3025	3345	3665	3990	
76	1835	2180	2520	2865	3210	3555	3900		
78	1935	2300	2665	3035	3405	3775	4150		
80	2035	2425	2815	3210	3605	4005			
82	2140	2555	2975	3395	3820				
84	2250	2690	3140	3585	4040				
86	2360	2835	3310	3785					
88	2475	2980	3485	3990					
90	2595	3130	3665	4205					

TABLE 22M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES) JT8D-15 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	89.4	89.4	86.9	82.0	77.0	72.2
12	89.4	89.4	86.9	82.0	77.0	72.2
14	89.4	89.4	86.9	82.0	77.0	72.2
16	89.4	89.4	86.9	82.0	77.0	72.2
18	89.4	89.4	86.9	82.0	77.0	72.2
20	89.4	89.4	86.9	82.0	77.0	72.2
22	89.4	89.4	86.9	82.0	77.0	72.2
24	89.4	89.4	86.9	82.0	77.0	72.2
26	89.4	89.4	85.2	80.3	75.7	71.1
28	89.4	89.4	84.1	79.2	74.6	70.1
30	89.4	88.1	83.0	78.1	73.5	69.1
32	89.4	86.9	81.8	77.0	72.5	68.0
34	89.4	85.6	80.6	75.9	71.4	67.0
36	89.4	84.3	79.4	74.7	70.3	66.0
38	88.1	83.0	78.2	73.6	69.2	64.9
40	86.7	81.8	77.0	72.4	68.0	63.9
42	85.4	80.5	75.7	71.2	66.9	62.8
44	84.2	79.2	74.4	70.0	65.8	61.7

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	58.4	64.1	72.2	82.4	94.4	107.9
12	58.4	64.2	72.3	82.5	94.5	107.9
14	58.5	64.4	72.5	82.6	94.5	108.2
16	58.6	64.8	73.0	83.0	94.9	108.8
18	58.7	65.3	73.5	83.6	95.6	109.7
20	59.1	65.9	74.3	84.3	96.4	110.7
22	59.6	66.7	75.1	85.3	97.5	112.1
24	60.3	67.6	76.2	86.5	98.9	113.7
26	61.1	68.6	77.4	87.9	100.5	115.6
28	62.1	69.8	78.8	89.4	102.3	117.8
30	63.2	71.1	80.3	91.2	104.4	120.2
32	64.4	72.5	82.0	93.2	106.7	122.8
34	65.8	74.1	83.8	95.4	109.2	125.8
36	67.3	75.8	85.8	97.8	112.0	129.0
38	68.9	77.7	88.0	100.4	115.0	132.4
40	70.7	79.6	90.3	103.1	118.3	136.1
42	72.6	81.7	92.8	106.1	121.8	140.1
44	74.7	84.0	95.5	109.3	125.6	144.3

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 58	68	78	88	98	108	118	128	138
59	1210	1385	1590	1800	2015	2220	2405	2560	2670
61	1280	1480	1690	1905	2120	2325	2510	2675	2805
63	1355	1575	1800	2020	2235	2445	2640	2820	2980
65	1435	1675	1910	2140	2365	2585	2795	2995	3190
67	1520	1780	2030	2275	2510	2740	2970	3205	3435
69	1605	1890	2155	2415	2665	2920	3175	3440	3720
71	1700	2000	2285	2560	2835	3110	3400	3710	4040
73	1795	2115	2425	2720	3020	3325	3650	4005	4400
75	1895	2235	2565	2885	3215	3555	3925	4335	
77	1995	2360	2710	3060	3420	3805	4225		
79	2105	2490	2865	3245	3645	4075			
81	2215	2620	3025	3435	3880	4360			
83	2330	2755	3185	3640	4125				
85	2450	2895	3355	3850	4385				
87	2575	3040	3530	4065					
89	2705	3190	3715	4295					

TABLE 23M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 727-200 SERIES) JT8D-15 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	89.4	89.4	89.4	85.1	80.0	75.2
12	89.4	89.4	89.4	85.1	80.0	75.2
14	89.4	89.4	89.4	85.1	80.0	75.2
16	89.4	89.4	89.4	85.1	80.0	75.2
18	89.4	89.4	89.4	85.1	80.0	75.2
20	89.4	89.4	89.4	85.1	80.0	75.2
22	89.4	89.4	89.4	85.1	80.0	75.2
24	89.4	89.4	89.4	85.1	80.0	75.2
26	89.4	89.4	88.5	83.5	78.7	73.6
28	89.4	89.4	87.3	82.4	77.5	72.6
30	89.4	89.4	86.1	81.2	76.4	71.6
32	89.4	89.4	84.9	80.0	75.2	70.5
34	89.4	88.9	83.7	78.8	74.1	69.5
36	89.4	87.6	82.5	77.6	73.0	68.4
38	89.4	86.2	81.2	76.4	71.8	67.4
40	89.4	84.9	80.0	75.2	70.7	66.3
42	88.7	83.6	78.7	74.0	69.6	65.3
44	87.3	82.3	77.5	72.8	68.4	64.2

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	65.9	72.3	82.0	94.2	108.1	122.9
12	66.0	72.5	82.1	94.3	108.2	123.3
14	66.0	72.9	82.4	94.3	108.3	124.0
16	66.2	73.4	82.9	94.7	108.7	125.0
18	66.3	74.0	83.6	95.3	109.5	126.3
20	66.7	74.8	84.5	96.2	110.5	127.8
22	67.4	75.7	85.5	97.3	111.8	129.5
24	68.1	76.8	86.7	98.7	113.3	131.6
26	69.1	78.0	88.1	100.3	115.2	133.9
28	70.1	79.4	89.7	102.1	117.4	136.4
30	71.4	80.9	91.5	104.2	119.8	139.2
32	72.8	82.5	93.5	106.5	122.5	142.3
34	74.4	84.3	95.6	109.1	125.5	145.7
36	76.2	86.3	97.9	111.9	128.8	149.3
38	78.1	88.3	100.4	114.9	132.3	153.2
40	80.2	90.6	103.1	118.2	136.2	157.3
42	82.4	92.9	106.0	121.8	140.3	161.7
44	84.8	95.4	109.1	125.6	144.7	166.4

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 70	80	90	100	110	120	130	140	150
58	1380	1575	1760	1940	2115	2285	2450	2610	2770
60	1470	1675	1870	2065	2250	2435	2615	2795	2970
62	1565	1780	1990	2195	2395	2595	2795	2990	3185
64	1660	1890	2115	2335	2555	2770	2985	3200	3415
66	1765	2010	2250	2485	2720	2955	3190	3425	3660
68	1870	2130	2390	2645	2900	3155	3410	3665	3920
70	1980	2260	2540	2815	3090	3365	3645	3920	4195
72	2100	2395	2695	2995	3295	3590	3890	4190	
74	2220	2540	2860	3185	3505	3830	4150		
76	2345	2690	3035	3380	3730	4080			
78	2475	2840	3215	3590	3965	4340			
80	2610	3005	3405	3805	4210				
82	2745	3170	3600	4035					
84	2890	3340	3805	4270					
86	3040	3520	4015						
88	3190	3705	4235						

TABLE 32M. AIRCRAFT PERFORMANCE, LANDING (BOEING 737-200 SERIES) JT8D-15 ENGINE, 40° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	46.8	46.8	46.8	46.3	45.6	42.7
12	46.8	46.8	46.8	46.8	45.6	42.7
14	46.8	46.8	46.8	46.8	45.6	42.7
16	46.8	46.8	46.8	46.8	45.6	42.7
18	46.8	46.8	46.8	46.8	45.6	42.7
20	46.8	46.8	46.8	46.8	45.4	42.4
22	46.8	46.8	46.8	46.8	45.1	42.2
24	46.8	46.8	46.8	46.8	44.8	41.9
26	46.8	46.8	46.8	46.8	44.4	41.6
28	46.8	46.8	46.8	46.7	43.9	41.2
30	46.8	46.8	46.8	46.2	43.5	40.8
32	46.8	46.8	46.8	45.6	42.9	40.4
34	46.8	46.8	46.8	45.0	42.4	39.8
36	46.8	46.8	46.8	44.4	41.7	39.3
38	46.8	46.8	46.4	43.7	41.1	38.6
40	46.8	46.8	45.6	42.9	40.4	37.9
42	46.8	46.8	44.8	42.2	39.6	37.2
44	46.8	46.6	43.9	41.3	38.8	36.4

RUNWAY LENGTH (METERS)

WEIGHT	AIRPORT ELEVATION (METERS)					
1000 KG	0	500	1000	1500	2000	2500
32	1210	1260	1305	1350	1395	1450
34	1265	1315	1360	1410	1465	1525
36	1320	1370	1420	1475	1535	1600
38	1375	1430	1485	1540	1605	1675
40	1430	1485	1545	1610	1675	1745
42	1485	1545	1610	1675	1745	1820
44	1545	1610	1675	1745	1815	1895
46	1605	1670	1740	1810	1885	1965
48	1665	1735	1805	1880	1955	2035
50	1725	1800	1875	1950	2025	2110

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	ADVANCED 200	OPTIONS 200C
MAXIMUM TAKEOFF WEIGHT	KG	49 480	52 440
MAXIMUM LANDING WEIGHT			
FLAPS 30°	KG	44 490	46 760
FLAPS 40°	KG	40 690	46 760
TYPICAL OPERATING EMPTY	KG	30 499	31 815 1/
WEIGHT PLUS RESERVE FUEL	KG	32 423	33 740 2/
AVERAGE FUEL CONSUMPTION	KG/KM	4.23	4.23
TYPICAL MAXIMUM PASSENGER LOAD AT 90.7 KG./PASSENGER	KG	11 791	11 791
MAXIMUM STRUCTURAL PAYLOAD	KG	15 810	14 500

1/ Based on 1.25 hours of reserve fuel.
2/ Based on 2.00 hours of reserve fuel.

TABLE 33M. AIRCRAFT PERFORMANCE, LANDING (BOEING 737-200 SERIES) JT8D-15 ENGINE, 30° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	46.8	46.8	46.8	46.8	45.6	42.7
12	46.8	46.8	46.8	46.8	45.6	42.7
14	46.8	46.8	46.8	46.8	45.6	42.7
16	46.8	46.8	46.8	46.8	45.6	42.7
18	46.8	46.8	46.8	46.8	45.6	42.7
20	46.8	46.8	46.8	46.8	45.4	42.4
22	46.8	46.8	46.8	46.8	45.1	42.2
24	46.8	46.8	46.8	46.8	44.8	41.9
26	46.8	46.8	46.8	46.8	44.4	41.6
28	46.8	46.8	46.8	46.7	43.9	41.2
30	46.8	46.8	46.8	46.2	43.5	40.8
32	46.8	46.8	46.8	45.6	42.9	40.4
34	46.8	46.8	46.8	45.0	42.4	39.8
36	46.8	46.8	46.8	44.4	41.7	39.3
38	46.8	46.8	46.4	43.7	41.1	38.6
40	46.8	46.8	45.6	42.9	40.4	37.9
42	46.8	46.8	44.8	42.2	39.6	37.2
44	46.8	46.6	43.9	41.3	38.8	36.4

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
32	1305	1355	1405	1455	1510	1570
34	1365	1420	1475	1525	1585	1650
36	1425	1485	1545	1600	1660	1730
38	1485	1555	1610	1670	1730	1805
40	1550	1620	1680	1740	1805	1885
42	1615	1685	1750	1810	1880	1960
44	1680	1750	1815	1885	1955	2040
46	1745	1815	1885	1955	2030	2115
48	1810	1880	1950	2025	2105	2195
50	1880	1945	2020	2100	2185	2270

TABLE 34M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 737-200 SERIES) JT8D-15 ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	47.4	44.4	42.0	39.3	36.9	35.0
12	47.3	44.2	42.0	39.3	36.9	35.0
14	47.2	44.0	42.0	39.3	36.9	35.0
16	47.1	43.8	42.0	39.3	36.9	35.0
18	47.0	43.6	42.0	39.3	36.9	35.0
20	45.8	44.2	42.1	39.5	36.9	34.5
22	45.8	44.0	41.7	39.2	36.6	34.3
24	45.8	43.8	41.4	38.8	36.3	34.1
26	45.6	43.4	41.0	38.4	36.0	33.9
28	45.4	43.1	40.5	38.0	35.6	33.6
30	45.1	42.6	40.1	37.6	35.3	33.3
32	44.7	42.1	39.5	37.1	34.8	32.9
34	44.2	41.6	39.0	36.6	34.4	32.6
36	43.7	41.0	38.4	36.0	33.9	32.2
38	43.0	40.3	37.8	35.5	33.5	31.7
40	42.3	39.6	37.1	34.9	33.0	31.3
42	41.4	38.8	36.4	34.3	32.4	30.8
44	40.5	37.9	35.7	33.7	31.9	30.3

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	43.5	46.0	53.1	60.3	68.2	77.2
12	43.7	46.3	53.2	60.3	68.3	77.4
14	43.9	46.6	53.4	60.5	68.6	77.8
16	44.1	47.0	53.7	60.8	69.0	78.4
18	44.3	47.3	54.1	61.3	69.5	79.1
20	44.5	48.4	54.7	61.9	70.2	79.9
22	44.7	49.0	55.3	62.6	71.0	80.9
24	44.9	49.7	56.1	63.4	72.0	82.0
26	45.3	50.5	57.0	64.4	73.1	83.2
28	45.7	51.4	57.9	65.5	74.4	84.6
30	46.6	52.4	59.0	66.8	75.7	86.1
32	47.6	53.5	60.3	68.1	77.3	87.8
34	48.6	54.6	61.6	69.7	79.0	89.6
36	49.7	55.9	63.0	71.3	80.8	91.6
38	50.9	57.2	64.6	73.1	82.7	93.6
40	52.1	58.6	66.2	75.0	84.8	95.9
42	53.4	60.2	68.0	77.0	87.1	98.3
44	54.8	61.8	69.9	79.1	89.4	100.8

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 40	50	60	70	80	90	100
32	700	835	960	1080	1205	1345	1500
34	750	910	1060	1205	1360	1535	1735
36	810	995	1170	1340	1525	1730	1970
38	880	1090	1290	1490	1700	1930	2200
40	955	1195	1420	1650	1885	2140	2425
42	1045	1310	1565	1820	2075	2350	2645
44	1140	1435	1720	2000	2280	2570	2865
46	1245	1570	1885	2195	2495	2790	3085
48	1360	1710	2060	2395	2720	3020	3295
50	1480	1865	2245	2615	2955	3255	3505
52	1615	2030	2445	2840	3195	3495	

TABLE 35M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 737-200 SERIES) JT8D-15 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	49.9	46.9	44.3	41.5	39.0	36.7
12	49.8	46.7	44.3	41.5	39.0	36.7
14	49.7	46.5	44.3	41.5	39.0	36.7
16	49.6	46.3	44.3	41.5	39.0	36.7
18	49.5	46.1	44.3	41.5	39.0	36.7
20	48.3	46.6	44.3	41.5	38.8	36.4
22	48.3	46.4	43.9	41.2	38.5	36.1
24	48.2	46.0	43.6	40.9	38.3	35.9
26	48.0	45.7	43.1	40.5	38.0	35.6
28	47.8	45.3	42.7	40.1	37.6	35.2
30	47.4	44.8	42.2	39.7	37.2	34.9
32	47.0	44.3	41.7	39.2	36.8	34.5
34	46.5	43.7	41.1	38.7	36.4	34.1
36	45.9	43.1	40.5	38.1	35.8	33.6
38	45.3	42.4	39.9	37.5	35.3	33.1
40	44.5	41.7	39.2	36.9	34.7	32.6
42	43.7	40.9	38.4	36.2	34.1	32.1
44	42.9	40.1	37.7	35.4	33.4	31.6

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	46.0	48.5	56.2	63.6	71.8	81.2
12	46.3	48.9	56.3	63.7	71.9	81.4
14	46.6	49.4	56.6	64.0	72.2	81.8
16	46.9	49.8	56.9	64.3	72.7	82.3
18	47.2	50.3	57.4	64.8	73.3	83.0
20	47.5	51.0	57.9	65.5	74.0	83.9
22	47.8	51.7	58.6	66.2	74.9	84.9
24	48.1	52.5	59.4	67.1	75.9	86.1
26	48.4	53.3	60.3	68.1	77.1	87.4
28	48.7	54.3	61.3	69.3	78.4	88.9
30	49.1	55.3	62.4	70.5	79.9	90.5
32	50.2	56.4	63.7	72.0	81.5	92.3
34	51.4	57.7	65.0	73.5	83.2	94.3
36	52.6	58.9	66.5	75.2	85.1	96.4
38	53.8	60.3	68.0	77.0	87.2	98.7
40	55.1	61.8	69.7	78.9	89.4	101.2
42	56.5	63.4	71.5	80.9	91.7	103.8
44	57.9	65.0	73.4	83.1	94.2	106.5

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 45	55	65	75	85	95	105
32	735	895	1035	1165	1295	1425	1570
34	815	985	1145	1300	1460	1630	1815
36	895	1085	1265	1445	1635	1840	2060
38	985	1190	1395	1600	1820	2050	2305
40	1080	1310	1540	1770	2010	2270	2545
42	1180	1440	1695	1950	2215	2490	2780
44	1285	1575	1860	2145	2425	2715	3010
46	1395	1725	2040	2350	2650	2945	3240
48	1510	1885	2235	2565	2880	3180	3465
50	1630	2050	2435	2795	3120	3415	3690
52	1760	2230	2655	3035	3370	3660	

TABLE 36M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 737-200 SERIES) JT8D-15 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	52.4	52.4	49.4	46.4	43.5	41.0
12	52.4	52.4	49.4	46.4	43.5	41.0
14	52.4	52.4	49.4	46.4	43.5	41.0
16	52.4	52.4	49.4	46.4	43.5	41.0
18	52.4	52.4	49.4	46.4	43.5	41.0
20	52.4	52.1	49.3	46.3	43.3	40.7
22	52.4	51.8	48.9	45.9	43.0	40.4
24	52.4	51.2	48.3	45.4	42.5	39.9
26	52.4	50.5	47.7	44.8	42.0	39.4
28	52.4	49.9	47.1	44.2	41.5	39.0
30	51.9	49.3	46.5	43.7	40.9	38.5
32	51.3	48.7	45.9	43.1	40.4	38.0
34	50.8	48.0	45.3	42.5	39.9	37.6
36	50.2	47.4	44.7	42.0	39.4	37.1
38	49.6	46.8	44.0	41.4	38.9	36.6
40	49.0	46.2	43.4	40.8	38.4	36.2
42	48.5	45.5	42.8	40.3	37.9	35.7
44	47.9	44.9	42.2	39.7	37.4	35.2

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	48.0	50.5	58.8	66.7	75.5	85.8
12	48.1	50.9	59.0	66.9	75.7	86.0
14	48.2	51.4	59.2	67.2	76.1	86.4
16	48.3	51.8	59.6	67.6	76.6	87.0
18	48.4	52.3	60.1	68.1	77.2	87.7
20	48.5	53.5	60.8	68.8	78.0	88.6
22	48.6	54.3	61.5	69.7	79.0	89.6
24	48.7	55.1	62.4	70.7	80.1	90.9
26	49.6	56.0	63.3	71.8	81.4	92.3
28	50.6	57.0	64.4	73.0	82.8	93.9
30	51.7	58.1	65.6	74.4	84.3	95.6
32	52.9	59.3	67.0	75.9	86.0	97.5
34	54.1	60.6	68.4	77.5	87.9	99.6
36	55.3	62.0	70.0	79.3	89.9	101.9
38	56.6	63.5	71.7	81.2	92.1	104.3
40	58.0	65.0	73.5	83.3	94.4	106.9
42	59.4	66.7	75.4	85.4	96.9	109.7
44	60.9	68.5	77.4	87.8	99.5	112.7

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REDUCTION FACTOR "R" 50	60	70	80	90	100	110
32	805	960	1130	1325	1550	1835	1630
34	890	1060	1220	1370	1525	1695	1890
36	985	1170	1350	1525	1710	1915	2145
38	1085	1295	1495	1695	1905	2140	2400
40	1190	1425	1650	1880	2115	2370	2650
42	1305	1565	1820	2075	2335	2605	2900
44	1430	1720	2000	2280	2565	2850	3150
46	1560	1885	2195	2505	2805	3100	3390
48	1695	2055	2405	2740	3055	3355	3635
50	1840	2240	2625	2995	3320	3620	3875
52	1995	2435	2855	3245	3595	3935	4110

TABLE 37 M. GENERAL CHARACTERISTICS (BOEING 747 SERIES) JT9D-7A ENGINE

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	-100 BASIC	-100 MODIFIED	-200B	-200C PASS.	-200C CARGO	-200F
MAXIMUM TAKEOFF WEIGHT	KG	332,963	333,396	356,076	356,076	356,076	356,076
MAXIMUM LANDING WEIGHT	KG	255,830	255,830	255,830	285,768	285,768	285,768
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL 1/	KG	174,954 182,619	175,044 182,710	179,580 187,790	185,023 193,234	175,135 183,572	167,966 176,632
AVERAGE FUEL CONSUMPTION	KG/KM	12.69	12.69	13.25	13.25	13.81	14.38
TYPICAL MAXIMUM PASSENGER LOAD @ 90.7 KG/PASSENGER	KG	34,927 37,740 45,360	34,927 37,740 45,360	34,927 37,740 45,360	34,927 37,740 45,360	— — —	— — —
MAXIMUM STRUCTURAL PAYLOAD	KG	76,477	76,386	72,894	96,254	106,641	114,761
ENGINE INJECTION WATER	KG	2,273	2,273	2,654	2,654	2,654	2,654

1/ All values on the top line are based on 1.25 hours of reserve fuel. All values on the bottom line are based on 2.00 hours of reserve fuel. The 2.00 hour value should be used for operations, outside the 48 contiguous States, to an airport for which an alternate is not specified.

NOTE: This series of performance tables was developed around the wet thrust capability of the JT9D-7A engine; and for that reason, the weight of engine injection water should be added to the weight no payload prior to adding the value for payload, Section 1, English Tables, par 2a(3)(e).

TABLE 38M. AIRCRAFT PERFORMANCE, LANDING (BOEING 747 SERIES)
JT9D-7A ENGINE, 30° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	1500	2000	2500
10	285.7	285.7	285.7	285.7	285.7	285.7	282.8
12	285.7	285.7	285.7	285.7	285.7	285.7	280.1
14	285.7	285.7	285.7	285.7	285.7	285.7	277.4
16	285.7	285.7	285.7	285.7	285.7	285.7	274.7
18	285.7	285.7	285.7	285.7	285.7	285.7	272.1
20	285.7	285.7	285.7	285.7	285.7	285.7	269.4
22	285.7	285.7	285.7	285.7	285.7	283.4	266.7
24	285.7	285.7	285.7	285.7	285.7	280.5	264.0
26	285.7	285.7	285.7	285.7	285.7	277.5	261.2
28	285.7	285.7	285.7	285.7	285.7	274.5	258.4
30	285.7	285.7	285.7	285.7	285.7	271.5	255.5
32	285.7	285.7	285.7	283.6	285.0	268.3	252.6
34	285.7	285.7	285.7	279.9	281.7	265.2	249.6
36	285.7	285.7	285.7	276.2	278.3	261.9	246.4
38	285.7	285.7	285.7	272.4	274.8	258.6	243.2
40	285.7	285.7	285.6	268.7	271.3	255.1	239.9
42	285.7	285.7	281.7	265.1	267.5	251.6	236.4
44	285.7	285.7	278.1	261.6	263.7	248.0	232.8

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
205	1915	1990	2070	2155	2245	2340
210	1950	2030	2115	2205	2295	2390
215	1990	2075	2160	2250	2340	2435
220	2030	2115	2205	2295	2385	2485
225	2065	2155	2245	2340	2430	2535
230	2105	2195	2290	2380	2480	2585
235	2145	2240	2330	2425	2525	2635
240	2180	2280	2375	2470	2575	2685
245	2220	2320	2415	2515	2625	2735
250	2260	2360	2455	2560	2670	2785
255	2300	2400	2500	2605	2720	2835
260	2340	2440	2545	2650	2765	2885
265	2380	2480	2585	2695	2810	2930
270	2420	2525	2630	2740	2860	2980
275	2465	2565	2675	2785	2905	3030
280	2505	2610	2720	2830	2955	3080
285	2545	2650	2760	2880	3000	3135
290	2585	2695	2805	2925	3050	3185

TABLE 39M. AIRCRAFT PERFORMANCE, LANDING (BOEING 747 SERIES)
JT9D-7A ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 KG)

TEMP	AIRPORT ELEVATION (METERS)						
°C	0	500	1000	1500	1500	2000	2500
10	285.7	285.7	285.7	285.7	285.7	285.7	285.7
12	285.7	285.7	285.7	285.7	285.7	285.7	285.4
14	285.7	285.7	285.7	285.7	285.7	285.7	282.3
16	285.7	285.7	285.7	285.7	285.7	285.7	279.2
18	285.7	285.7	285.7	285.7	285.7	285.7	276.3
20	285.7	285.7	285.7	285.7	285.7	285.7	273.3
22	285.7	285.7	285.7	285.7	285.7	285.7	270.3
24	285.7	285.7	285.7	285.7	285.7	284.4	267.4
26	285.7	285.7	285.7	285.7	285.7	281.3	264.4
28	285.7	285.7	285.7	285.7	285.7	278.1	261.5
30	285.7	285.7	285.7	285.7	285.7	274.9	258.4
32	285.7	285.7	285.7	285.7	285.7	271.6	255.4
34	285.7	285.7	285.7	282.5	285.2	268.2	252.3
36	285.7	285.7	285.7	278.7	281.5	264.8	249.1
38	285.7	285.7	285.7	274.9	277.8	261.3	245.8
40	285.7	285.7	285.7	271.1	273.9	257.7	242.4
42	285.7	285.7	284.5	267.3	269.9	254.0	238.9
44	275.1	282.5	280.4	263.6	265.8	250.2	235.2

RUNWAY LENGTH (METERS)

WEIGHT	AIRPORT ELEVATION (METERS)					
1000 KG	0	500	1000	1500	2000	2500
205	2030	2110	2195	2285	2375	2480
210	2075	2155	2245	2335	2425	2535
215	2120	2205	2290	2385	2485	2590
220	2165	2250	2340	2435	2540	2645
225	2210	2295	2390	2485	2595	2705
230	2255	2345	2440	2540	2650	2760
235	2300	2390	2485	2590	2705	2820
240	2345	2435	2535	2645	2760	2880
245	2390	2480	2585	2695	2815	2935
250	2435	2530	2635	2750	2870	2995
255	2475	2580	2685	2800	2925	3055
260	2525	2630	2740	2855	2980	3115
265	2575	2680	2790	2910	3035	3170
270	2630	2735	2845	2960	3090	3230
275	2680	2785	2895	3015	3145	3290
280	2725	2835	2950	3070	3200	3345
285	2770	2885	3000	3125	3255	3405
290	2810	2930	3050	3175	3315	3460

TABLE 40M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 747 SERIES)
JT9D-7A ENGINE, 20° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	356.0	343.6	328.8	313.6	297.7	282.6
12	356.0	343.6	328.8	313.6	297.7	282.6
14	356.0	343.6	328.8	313.6	297.7	282.4
16	356.0	343.6	328.8	313.6	297.7	279.3
18	356.0	343.6	328.8	313.6	296.1	277.0
20	356.0	343.6	328.8	313.6	293.3	274.4
22	356.0	345.6	328.8	310.1	290.3	271.6
24	356.0	343.6	327.5	306.6	287.1	268.7
26	356.0	343.6	323.4	303.0	283.8	265.6
28	356.0	340.7	319.4	299.3	280.4	262.5
30	356.0	336.4	315.4	295.6	276.9	259.2
32	353.9	332.1	311.5	291.9	273.5	256.0
34	349.5	328.0	307.6	288.3	270.0	252.7
36	345.3	324.0	303.8	284.7	266.6	249.5
38	341.1	320.1	300.0	281.1	263.2	246.3
40	337.0	316.1	296.3	277.6	259.9	243.2
42	332.7	312.1	292.7	274.3	256.8	240.3
44	328.3	308.1	289.1	271.1	253.9	237.4

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	60.5	67.1	74.3	82.7	92.5	104.4
12	61.0	67.6	74.9	83.3	93.2	105.0
14	61.5	68.1	75.5	83.9	93.9	105.8
16	61.9	68.6	76.0	84.6	94.7	106.7
18	62.4	69.1	76.6	85.3	94.8	109.3
20	62.8	69.6	77.1	85.9	96.9	111.8
22	63.3	70.1	77.7	86.6	98.9	114.2
24	63.7	70.6	78.0	88.3	100.9	116.5
26	64.2	71.2	79.4	90.0	102.9	118.8
28	64.7	71.6	80.8	91.7	104.9	121.0
30	65.1	72.9	82.3	93.5	106.9	123.3
32	65.9	74.2	83.9	95.3	109.1	125.7
34	67.1	75.6	85.5	97.2	111.3	128.2
36	68.4	77.0	87.2	99.2	113.6	130.8
38	69.7	78.5	88.9	101.3	116.1	133.7
40	71.1	80.1	90.8	103.6	118.8	
42	72.5	81.7	92.8	106.0		
44	74.0	83.5	94.9	108.5		

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 60	70	80	90	100	110	120	130	140
230	1260	1395	1545	1705	1880	2050	2220	2385	2530
240	1320	1495	1680	1865	2055	2245	2430	2615	2785
250	1400	1615	1825	2035	2250	2455	2660	2865	3065
260	1495	1740	1980	2220	2450	2685	2910	3140	3370
270	1605	1880	2150	2410	2670	2925	3185	3440	3700
280	1735	2035	2330	2620	2905	3190	3475	3760	4050
290	1875	2200	2520	2840	3155	3475	3790	4105	4420
300	2025	2375	2725	3075	3425	3775	4120	4465	4805
310	2190	2565	2945	3330	3715	4100	4480	4850	
320	2365	2765	3180	3600	4025	4450	4860		
330	2545	2975	3425	3890	4360	4820			
340	2735	3200	3690	4200	4715				
350	2930	3430	3975	4535	5095				
360	3135	3675	4270	4885					

TABLE 41M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 747 SERIES) JT9D-7A ENGINE, 10° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	356.0	356.0	343.5	327.4	310.8	294.6
12	356.0	356.0	343.5	327.4	310.8	294.6
14	356.0	356.0	343.5	327.4	310.8	294.6
16	356.0	356.0	343.5	327.4	310.8	291.9
18	356.0	356.0	343.5	327.4	309.2	289.0
20	356.0	356.0	343.5	327.4	306.2	286.3
22	356.0	356.0	343.5	323.8	303.0	283.4
24	356.0	356.0	342.0	320.2	299.6	280.2
26	356.0	356.0	338.0	316.4	296.1	277.0
28	356.0	356.0	333.9	312.5	292.4	273.6
30	356.0	352.0	329.7	308.6	288.7	270.1
32	356.0	347.5	325.5	304.6	284.9	266.6
34	356.0	343.0	321.3	300.6	281.2	263.1
36	356.0	338.6	317.1	296.7	277.5	259.7
38	356.0	334.2	313.0	292.8	273.9	256.3
40	351.8	329.9	309.0	289.1	270.5	253.1
42	347.4	325.7	305.1	285.6	267.2	250.1
44	343.1	321.7	301.4	282.2	264.2	247.2

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	68.3	75.1	83.0	92.4	103.5	116.9
12	68.9	75.6	83.6	93.1	104.4	117.8
14	69.3	76.1	84.1	93.7	105.1	118.5
16	69.8	76.5	84.6	94.2	105.7	120.0
18	70.2	77.0	85.1	94.8	106.4	122.6
20	70.6	77.5	85.6	95.3	108.4	125.1
22	70.9	78.0	86.0	96.5	110.4	127.7
24	71.3	78.4	86.7	98.4	112.6	130.4
26	71.8	78.9	88.4	100.3	115.0	133.2
28	72.2	79.9	90.1	102.4	117.4	136.0
30	72.7	81.4	91.9	104.5	119.9	138.9
32	73.6	83.0	93.8	106.7	122.5	141.8
34	75.0	84.5	95.7	109.0	125.2	144.9
36	76.4	86.1	97.6	111.4	128.0	148.1
38	77.9	87.8	99.6	113.8	130.9	151.4
40	79.4	89.5	101.7	116.3	133.9	
42	81.1	91.2	103.7	118.9		
44	82.9	93.1	105.9	121.5		

RUNWAY LENGTH (METERS)

WEIGHT	REFERENCE FACTOR "R"									
1000 KG	60	70	80	90	100	110	120	130	140	150
250	1355	1575	1790	1995	2195	2395	2590	2785	2975	3170
260	1455	1700	1935	2165	2390	2610	2830	3050	3265	3485
270	1565	1830	2090	2345	2595	2840	3085	3330	3575	3820
280	1685	1970	2255	2535	2815	3085	3360	3630	3905	4180
290	1810	2125	2435	2745	3050	3350	3655	3955	4260	4565
300	1945	2290	2625	2965	3300	3635	3970	4305	4640	4975
310	2090	2460	2830	3200	3570	3940	4310	4680	5050	
320	2245	2645	3050	3455	3860	4270	4680	5090		
330	2405	2840	3280	3725	4175	4625	5075			
340	2575	3050	3530	4015	4510	5005				
350	2750	3265	3790	4325	4865					
360	2930	3495	4070	4655						

TABLE 42M. AIRCRAFT PERFORMANCE, LANDING (BOEING 757-232 SERIES) PW 2037 ENGINE, 30° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1,000 KG)

TEMP DEG C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	89.9	89.9	89.9	89.9	89.9	89.9
12	89.9	89.9	89.9	89.9	89.9	89.9
14	89.9	89.9	89.9	89.9	89.9	89.9
16	89.9	89.9	89.9	89.9	89.9	89.9
18	89.9	89.9	89.9	89.9	89.9	89.9
20	89.9	89.9	89.9	89.9	89.9	89.9
22	89.9	89.9	89.9	89.9	89.9	89.9
24	89.9	89.9	89.9	89.9	89.9	89.9
26	89.9	89.9	89.9	89.9	89.9	89.9
28	89.9	89.9	89.9	89.9	89.9	89.9
30	89.9	89.9	89.9	89.9	89.9	89.6
32	89.9	89.9	89.9	89.9	89.9	87.7
34	89.9	89.9	89.9	89.9	89.9	85.8
36	89.9	89.9	89.9	89.9	89.1	83.8
38	89.9	89.9	89.9	89.9	86.9	81.8
40	89.9	89.9	89.9	89.9	84.6	79.8
42	89.9	89.9	89.9	87.7	82.3	77.7
44	89.9	89.9	89.9	84.9	79.9	75.6

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
55	1019	1081	1130	1172	1217	1270
58	1112	1170	1220	1269	1321	1383
61	1188	1242	1294	1348	1406	1474
64	1249	1301	1355	1412	1476	1547
67	1298	1349	1404	1465	1532	1606
70	1338	1388	1445	1509	1579	1654
73	1372	1422	1481	1547	1619	1695
76	1402	1453	1514	1582	1655	1732
79	1431	1484	1547	1617	1692	1770
82	1463	1518	1583	1654	1731	1811
85	1498	1557	1624	1698	1776	1859
88	1542	1605	1674	1749	1831	1918
91	1595	1662	1734	1812	1897	1992

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	MODEL 757-200 RB211 -535C	RB211 -535E4	PW 2037	RB211 -535C	RB211 -535E4
MAXIMUM DESIGN TAKEOFF WEIGHT	KILOGRAMS	99,700	99,700	104,300	108,800	108,800
MAXIMUM DESIGN LANDING WEIGHT	KILOGRAMS	89,800	89,800	89,800	89,800	89,800
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL 1/	KILOGRAMS	64,913	66,138	63,448	64,093	64,608
AVERAGE FUEL CONSUMPTION 2/	KG/KM	4.7	4.7	4.7	4.7	4.7
TYPICAL MAXIMUM PASSENGER LOAD @ 200 POUNDS/PASSENGER	KILOGRAMS	16,874 MIXED (16 first class, 170 tourist)				
		19,777 ALL-ECONOMY (218 tourist)				
MAXIMUM STRUCTURAL PAYLOAD	KILOGRAMS	22,580	21,355	24,045	23,400	22,885

1/ Based on 1.25 hours of reserve fuel.
2/ Average of flight manual and U.S. Department of Transportation "Aircraft Operating Cost and

TABLE 43M. AIRCRAFT PERFORMANCE, LANDING (BOEING 757-232 SERIES) PW 2037 ENGINE, 25° FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1,000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
DEG C	0	500	1000	1500	2000	2500
10	89.8	89.8	89.8	89.8	89.8	89.8
12	89.8	89.8	89.8	89.8	89.8	89.8
14	89.8	89.8	89.8	89.8	89.8	89.8
16	89.8	89.8	89.8	89.8	89.8	89.8
18	89.8	89.8	89.8	89.8	89.8	89.8
20	89.8	89.8	89.8	89.8	89.8	89.8
22	89.8	89.8	89.8	89.8	89.8	89.8
24	89.8	89.8	89.8	89.8	89.8	89.8
26	89.8	89.8	89.8	89.8	89.8	89.8
28	89.8	89.8	89.8	89.8	89.8	89.8
30	89.8	89.8	89.8	89.8	89.8	89.8
32	89.8	89.8	89.8	89.8	89.8	89.8
34	89.8	89.8	89.8	89.8	89.8	89.8
36	89.8	89.8	89.8	89.8	89.8	89.0
38	89.8	89.8	89.8	89.8	89.8	86.9
40	89.8	89.8	89.8	89.8	89.8	84.9
42	89.8	89.8	89.8	89.8	87.5	82.9
44	89.8	89.8	89.8	89.8	85.2	81.0

RUNWAY LENGTH (1,000 FEET)

WEIGHT	AIRPORT ELEVATION (FEET)								
1000 POUND	0	1000	2000	3000	4000	5000	6000	7000	8000
125	3.65	3.72	3.79	3.85	3.92	3.98	4.05	4.11	4.18
130	3.89	3.96	4.04	4.12	4.21	4.30	4.39	4.49	4.60
135	4.08	4.17	4.26	4.35	4.45	4.56	4.67	4.80	4.94
140	4.24	4.33	4.43	4.54	4.65	4.77	4.90	5.04	5.20
145	4.37	4.48	4.58	4.69	4.81	4.94	5.08	5.24	5.41
150	4.49	4.60	4.71	4.83	4.95	5.09	5.23	5.39	5.56
155	4.60	4.71	4.82	4.95	5.08	5.22	5.36	5.52	5.69
160	4.70	4.81	4.93	5.06	5.19	5.33	5.48	5.64	5.81
165	4.80	4.92	5.04	5.17	5.30	5.45	5.60	5.76	5.92
170	4.92	5.03	5.16	5.29	5.43	5.57	5.72	5.88	6.04
175	5.04	5.16	5.29	5.42	5.57	5.71	5.87	6.03	6.20
180	5.19	5.32	5.44	5.58	5.73	5.88	6.04	6.22	6.39
185	5.37	5.50	5.63	5.77	5.92	6.09	6.26	6.45	6.65
190	5.59	5.72	5.86	6.00	6.16	6.33	6.53	6.74	6.97
195	5.85	5.98	6.13	6.28	6.45	6.64	6.85	7.10	7.38
200	6.15	6.30	6.45	6.61	6.79	7.00	7.25	7.54	7.89

TABLE 44M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 757-232 SERIES) PW 2037 ENGINE, 20° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP DEG C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	108.9	108.9	108.9	108.9	98.5	95.6
12	108.9	108.9	108.9	107.2	97.8	94.0
14	108.9	108.9	108.9	105.2	96.9	92.5
16	108.9	108.9	108.9	103.3	96.0	91.1
18	108.9	108.9	108.1	101.5	94.9	89.6
20	108.9	108.9	105.5	99.7	93.7	88.2
22	108.9	107.6	103.2	98.0	92.4	86.7
24	108.5	105.3	101.2	96.4	91.0	85.3
26	106.5	103.2	99.3	94.7	89.5	83.8
28	104.6	101.4	97.5	93.0	87.9	82.3
30	103.0	99.8	95.9	91.3	86.2	80.7
32	101.5	98.3	94.2	89.5	84.4	79.1
34	100.0	96.7	92.5	87.7	82.6	77.5
36	98.6	95.2	90.8	85.8	80.7	75.7
38	97.1	93.4	88.9	83.8	78.7	73.9
40	95.6	91.5	86.8	81.7	76.6	72.0
42	93.8	89.4	84.5	79.4	74.5	70.0
44	91.9	86.8	81.8	77.0	72.3	67.8

REFERENCE FACTOR "R"

TEMP DEG C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	43.4	46.0	49.8	54.6	59.7	65.0
12	43.7	45.6	49.2	54.0	59.3	64.4
14	43.8	45.4	48.9	53.7	59.1	64.5
16	44.0	45.4	48.9	53.7	59.3	65.1
18	44.0	45.6	49.0	53.9	59.8	66.3
20	44.1	46.0	49.5	54.4	60.6	67.9
22	44.3	46.5	50.1	55.1	61.6	69.8
24	44.4	47.2	50.9	56.1	63.0	72.0
26	44.7	48.0	52.0	57.3	64.5	74.4
28	45.1	48.9	53.2	58.7	66.3	76.9
30	45.6	49.9	54.5	60.4	68.3	79.4
32	46.2	51.0	56.0	62.2	70.5	81.8
34	47.1	52.1	57.7	64.4	72.9	84.1
36	48.1	53.3	59.4	66.7	75.5	86.1
38	49.4	54.6	61.3	69.2	78.2	87.9
40	51.0	55.8	63.2	72.0	81.1	89.3
42	52.8	57.1	65.2	75.0	84.1	90.2
44	55.0	58.3	67.3	78.1	87.2	90.5

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 60	70	80	90	100	110	120	130	140
60	956	1082	1181	1263	1334	1404	1481	1574	1690
65	1088	1241	1390	1542	1703	1881	2084	2317	2589
70	1235	1416	1600	1792	1995	2214	2451	2712	2999
75	1397	1609	1824	2042	2266	2497	2735	2982	3239
80	1577	1823	2070	2319	2571	2826	3085	3351	3623
85	1773	2061	2351	2650	2963	3296	3654	4043	4469
90	1987	2324	2676	3063	3499	4004	4593	5284	
95	2220	2615	3057	3584	4234	5044			
100	2470	2936	3504	4242	5222				
105	2740	3290	4027	5064					
110	3029	3680	4637						

TABLE 45M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 757-232 SERIES) PW 2037 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
DEG C	0	500	1000	1500	2000	2500
10	108.9	108.9	108.9	108.9	106.5	101.2
12	108.9	108.9	108.9	108.9	105.4	99.8
14	108.9	108.9	108.9	108.9	104.2	98.3
16	108.9	108.9	108.9	108.9	103.0	96.8
18	108.9	108.9	108.9	108.0	101.6	95.3
20	108.9	108.9	108.9	106.4	100.2	93.8
22	108.9	108.9	108.9	104.7	98.7	92.3
24	108.9	108.9	107.7	103.0	97.1	90.8
26	108.9	108.9	106.1	101.2	95.4	89.2
28	108.9	108.1	104.4	99.4	93.7	87.6
30	108.9	106.7	102.6	97.5	91.8	85.9
32	108.4	105.1	100.7	95.5	89.9	84.2
34	107.0	103.4	98.8	93.5	87.9	82.4
36	105.4	101.5	96.7	91.4	85.8	80.6
38	103.6	99.5	94.5	89.1	83.7	78.7
40	101.7	97.4	92.3	86.8	81.5	76.7
42	99.9	95.2	89.9	84.4	79.2	74.6
44	98.1	92.9	87.3	81.9	76.8	72.5

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (METERS)					
DEG C	0	500	1000	1500	2000	2500
10	46.6	49.3	51.7	54.1	56.8	60.1
12	46.8	49.2	51.7	54.8	58.8	64.2
14	47.0	49.3	52.0	55.6	60.6	67.8
16	47.2	49.4	52.3	56.4	62.3	70.8
18	47.4	49.7	52.8	57.3	64.0	73.4
20	47.6	50.1	53.5	58.4	65.6	75.7
22	47.9	50.6	54.2	59.5	67.1	77.7
24	48.2	51.2	55.2	60.8	68.8	79.6
26	48.6	51.9	56.2	62.2	70.5	81.5
28	49.1	52.7	57.4	63.8	72.3	83.4
30	49.7	53.7	58.8	65.5	74.3	85.5
32	50.4	54.8	60.3	67.4	76.4	87.8
34	51.2	56.0	62.0	69.5	78.8	90.5
36	52.1	57.4	63.8	71.7	81.5	93.6
38	53.2	58.9	65.7	74.2	84.5	97.2
40	54.4	60.5	67.8	76.8	87.9	101.5
42	55.8	62.3	70.1	79.7	91.6	106.5
44	57.4	64.3	72.5	82.8	95.8	112.3

RUNWAY LENGTH (METERS)

WEIGHT	REFERENCE FACTOR "R"								
1000 KG	60	70	80	90	100	110	120	130	140
60	961	1085	1195	1304	1424	1567	1743	1965	2245
65	1100	1257	1399	1538	1680	1836	2014	2223	2471
70	1249	1438	1615	1785	1955	2129	2313	2511	2731
75	1408	1631	1846	2053	2255	2453	2648	2841	3035
80	1582	1841	2098	2347	2588	2816	3029	3223	3397
85	1771	2072	2375	2674	2960	3226	3464	3668	3828
90	1979	2326	2683	3038	3378	3690	3964	4185	4343
95	2207	2608	3027	3446	3848	4217	4536	4786	4952
100	2458	2922	3411	3904	4379	4815	5189		
105	2734	3271	3840	4417	4976	5490			
110	3038	3658	4320	4993					

TABLE 46M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 757-232 SERIES) PW 2037 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP DEG C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	108.9	108.9	108.9	108.9	108.9	106.4
12	108.9	108.9	108.9	108.9	108.9	104.9
14	108.9	108.9	108.9	108.9	108.8	103.4
16	108.9	108.9	108.9	108.9	107.7	101.9
18	108.9	108.9	108.9	108.9	106.4	100.3
20	108.9	108.9	108.9	108.9	105.0	98.6
22	108.9	108.9	108.9	108.9	103.4	97.0
24	108.9	108.9	108.9	107.9	101.7	95.3
26	108.9	108.9	108.9	106.0	100.0	93.5
28	108.9	108.9	108.9	104.1	98.1	91.7
30	108.9	108.9	107.5	102.1	96.1	89.9
32	108.9	108.9	105.5	100.0	94.1	88.0
34	108.9	108.4	103.4	97.8	91.9	86.1
36	108.9	106.5	101.3	95.6	89.7	84.1
38	108.9	104.5	99.0	93.2	87.4	82.1
40	107.2	102.3	96.7	90.8	85.1	80.0
42	105.3	99.9	94.1	88.3	82.7	77.8
44	103.0	97.3	91.4	85.7	80.3	75.6

REFERENCE FACTOR "R"

TEMP DEG C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	52.1	54.8	58.2	62.7	68.5	76.1
12	52.2	54.7	58.2	62.9	69.1	77.0
14	52.3	54.8	58.3	63.2	69.8	78.2
16	52.4	54.9	58.6	63.7	70.6	79.6
18	52.6	55.2	59.0	64.4	71.7	81.2
20	52.8	55.6	59.6	65.3	72.9	82.9
22	53.1	56.2	60.4	66.3	74.4	84.9
24	53.5	56.8	61.4	67.6	76.0	87.2
26	53.9	57.6	62.5	69.1	78.0	89.6
28	54.5	58.6	63.8	70.8	80.1	92.4
30	55.1	59.7	65.4	72.8	82.6	95.3
32	56.0	61.0	67.1	75.0	85.3	98.5
34	56.9	62.4	69.0	77.5	88.3	102.0
36	58.0	64.0	71.2	80.2	91.6	105.8
38	59.3	65.7	73.6	83.3	95.2	109.9
40	60.7	67.7	76.2	86.6	99.1	114.2
42	62.4	69.8	79.0	90.2	103.4	118.8
44	64.2	72.1	82.1	94.1	108.1	123.8

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 60	70	80	90	100	110	120	130	140
60	941	1087	1245	1401	1540	1648	1711	1715	1646
65	1093	1259	1418	1569	1711	1844	1966	2076	2173
70	1247	1438	1617	1786	1951	2114	2279	2451	2632
75	1409	1630	1843	2048	2249	2448	2646	2846	3051
80	1581	1838	2096	2350	2599	2837	3062	3271	3460
85	1769	2067	2377	2688	2990	3271	3522	3731	3888
90	1975	2319	2685	3056	3414	3742	4021	4234	4364
95	2205	2599	3022	3451	3864	4239	4554	4788	4917
100	2462	2912	3388	3868	4330	4754	5117		
105	2750	3261	3782	4301	4804	5276			
110	3074	3650	4207	4748					

TABLE 47M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 757-232 SERIES) PW 2037 ENGINE, 1° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1,000 KG)

TEMP DEG C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	108.9	108.9	108.9	108.9	108.9	108.9
12	108.9	108.9	108.9	108.9	108.9	108.9
14	108.9	108.9	108.9	108.9	108.9	108.2
16	108.9	108.9	108.9	108.9	108.9	106.7
18	108.9	108.9	108.9	108.9	108.9	105.0
20	108.9	108.9	108.9	108.9	108.9	103.4
22	108.9	108.9	108.9	108.9	108.4	101.6
24	108.9	108.9	108.9	108.9	106.5	99.8
26	108.9	108.9	108.9	108.9	104.5	97.9
28	108.9	108.9	108.9	108.9	102.5	96.0
30	108.9	108.9	108.9	106.8	100.5	94.1
32	108.9	108.9	108.9	104.8	98.4	92.1
34	108.9	108.9	108.6	102.6	96.3	90.0
36	108.9	108.9	106.4	100.4	94.1	88.0
38	108.9	108.9	104.2	98.1	91.8	85.9
40	108.9	107.4	101.7	95.6	89.6	83.8
42	108.9	104.9	99.0	93.1	87.2	81.7
44	108.0	102.0	96.1	90.4	84.9	79.6

REFERENCE FACTOR "R"

TEMP DEG C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	61.1	64.3	67.1	70.8	76.7	85.9
12	61.1	63.9	67.1	71.7	78.5	88.3
14	61.1	63.7	67.4	72.7	80.3	90.7
16	61.2	63.7	67.8	73.8	82.1	93.1
18	61.4	64.0	68.5	75.1	84.0	95.5
20	61.6	64.5	69.4	76.5	86.0	98.0
22	62.0	65.2	70.5	78.1	88.1	100.7
24	62.4	66.0	71.8	79.9	90.4	103.5
26	63.0	67.1	73.3	81.8	92.8	106.5
28	63.7	68.4	75.1	84.0	95.5	109.8
30	64.6	69.8	77.0	86.4	98.5	113.5
32	65.6	71.4	79.1	89.1	101.7	117.4
34	66.9	73.2	81.5	92.0	105.3	121.8
36	68.3	75.2	84.0	95.2	109.3	126.6
38	70.0	77.4	86.8	98.7	113.6	132.0
40	71.9	79.6	89.7	102.5	118.5	137.8
42	74.1	82.1	92.9	106.7	123.7	144.3
44	76.5	84.7	96.2	111.2	129.5	151.4

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 60	70	80	90	100	110	120	130	140
60	1051	1115	1210	1327	1452	1576	1685	1769	1817
65	1138	1276	1423	1575	1729	1882	2030	2169	2295
70	1255	1446	1636	1824	2008	2188	2363	2532	2693
75	1401	1632	1860	2083	2299	2508	2708	2896	3072
80	1575	1838	2102	2362	2615	2859	3088	3300	3491
85	1774	2069	2370	2671	2968	3254	3527	3780	4009
90	1996	2331	2673	3020	3367	3711	4048	4374	4685
95	2241	2628	3020	3418	3826	4244	4674	5119	
100	2506	2966	3418	3876	4355	4869			
105	2790	3349	3875	4403	4967				
110	3090	3783	4401	5010					

TABLE 51M. AIRCRAFT PERFORMANCE, LANDING (DC-9-30 SERIES)
JT8D-9 ENGINE, FULL FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	44.9	44.9	44.9	43.4	40.8	38.4
12	44.9	44.9	44.9	42.9	40.3	37.9
14	44.9	44.9	44.9	42.3	39.8	37.4
16	44.9	44.9	44.9	42.3	39.8	37.4
18	44.9	44.9	44.9	42.3	39.8	37.4
20	44.9	44.9	44.9	42.3	39.8	37.4
22	44.9	44.9	44.9	42.3	39.8	37.4
24	44.9	44.9	44.9	42.3	39.8	37.4
26	44.9	44.9	44.9	42.3	39.8	37.4
28	44.9	44.9	44.9	42.3	39.8	37.4
30	44.9	44.9	44.2	41.6	39.1	36.7
32	44.9	44.9	43.5	41.0	38.5	36.2
34	44.9	44.9	42.9	40.3	37.9	35.6
36	44.9	44.8	42.2	39.7	37.3	35.0
38	44.9	44.1	41.5	39.0	36.7	34.4
40	44.9	43.3	40.8	38.4	36.1	33.9
42	44.9	42.6	40.1	37.7	35.5	33.3
44	44.5	41.9	39.4	37.1	34.9	32.8

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
28	1115	1155	1200	1250	1300	1350
30	1175	1220	1265	1320	1375	1430
32	1235	1285	1335	1390	1450	1510
34	1295	1350	1405	1460	1520	1585
36	1355	1415	1470	1530	1595	1665
38	1415	1480	1540	1605	1670	1745
40	1480	1545	1610	1675	1745	1820
42	1540	1610	1675	1745	1820	1900
44	1605	1675	1745	1815	1895	1980
46	1665	1735	1810	1885	1970	2060

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	
MAXIMUM TAKEOFF WEIGHT	KG	48,989
MAXIMUM LANDING WEIGHT	KG	44,906
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL	KG	29,414 1/ 31,589 2/
AVERAGE FUEL CONSUMPTION	KG/KM	4.79
TYPICAL MAXIMUM PASSENGER LOAD @ 90.7 KG/PASSENGER	KG	10,433
MAXIMUM STRUCTURAL PAYLOAD	KG	13,674

1/ Based on 1.25 hours of reserve fuel.
2/ Based on 2.00 hours of reserve fuel.

TABLE 52M. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-30 SERIES)
JT8D-9 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	47.1	45.6	43.0	40.4	37.9	35.7
12	47.1	45.1	42.5	40.0	37.5	35.3
14	47.1	44.7	42.0	39.5	37.1	34.9
16	47.1	44.4	41.8	39.3	36.9	34.7
18	47.1	44.4	41.8	39.3	36.9	34.7
20	47.1	44.4	41.8	39.3	36.9	34.7
22	47.1	44.4	41.8	39.3	36.9	34.7
24	47.1	44.4	41.8	39.3	36.9	34.7
26	47.1	44.4	41.8	39.3	36.9	34.7
28	47.1	44.4	41.8	39.3	36.9	34.7
30	46.7	44.0	41.4	38.9	36.6	34.4
32	46.0	43.4	40.8	38.3	36.0	33.9
34	45.3	42.7	40.2	37.7	35.5	33.4
36	44.6	42.0	39.5	37.2	34.9	32.8
38	43.9	41.4	38.9	36.6	34.4	32.3
40	43.2	40.7	38.3	36.0	33.8	31.8
42	42.5	40.1	37.7	35.4	33.3	31.3
44	41.8	39.4	37.1	34.9	32.8	30.8

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	30.1	32.5	35.7	39.8	44.6	49.9
12	30.3	33.0	36.4	40.5	45.3	50.7
14	30.4	33.4	37.0	41.2	46.0	51.6
16	30.6	33.7	37.4	41.7	46.6	52.0
18	30.9	33.9	37.7	42.0	46.9	52.2
20	31.1	34.1	37.9	42.3	47.2	52.4
22	31.3	34.3	38.1	42.6	47.5	52.7
24	31.5	34.5	38.4	42.9	47.8	53.0
26	31.6	34.7	38.6	43.1	48.1	53.5
28	31.7	35.0	38.8	43.3	48.4	54.0
30	32.0	35.4	39.4	44.0	49.1	54.9
32	32.5	36.1	40.1	44.8	50.0	55.9
34	33.1	36.7	40.9	45.6	50.9	57.0
36	33.7	37.4	41.6	46.4	51.9	58.1
38	34.3	38.2	42.4	47.3	52.9	59.4
40	35.0	38.9	43.3	48.2	54.0	60.7
42	35.6	39.6	44.1	49.2	55.1	62.1
44	36.2	40.4	44.9	50.2	56.3	63.6

RUNWAY LENGTH (METERS)

WEIGHT	REFERENCE FACTOR "R"							
1000 KG	30	35	40	45	50	55	60	65
32	885	1030	1175	1320	1470	1615	1760	1905
34	975	1145	1315	1480	1650	1820	1990	2160
36	1075	1265	1460	1655	1850	2045	2245	
38	1180	1400	1620	1840	2060	2290		
40	1295	1540	1785	2030	2285			
42	1415	1690	1960	2235				
44	1545	1845	2140	2445				
46	1680	2005	2330					
48	1820	2170						

TABLE 53M. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-30 SERIES)
JT8D-9 ENGINE, 15° FLAPS, 2% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	47.4	45.8	43.2	40.6	38.1	35.9
12	47.4	45.4	42.7	40.2	37.7	35.5
14	47.4	44.9	42.3	39.7	37.3	35.1
16	47.4	44.6	42.0	39.5	37.1	34.9
18	47.4	44.6	42.0	39.5	37.1	34.9
20	47.4	44.6	42.0	39.5	37.1	34.9
22	47.4	44.6	42.0	39.5	37.1	34.9
24	47.4	44.6	42.0	39.5	37.1	34.9
26	47.4	44.6	42.0	39.5	37.1	34.9
28	47.4	44.6	42.0	39.5	37.1	34.9
30	46.8	44.1	41.5	39.0	36.7	34.4
32	46.2	43.5	40.9	38.5	36.2	33.9
34	45.5	42.9	40.4	37.9	35.6	33.4
36	44.9	42.2	39.8	37.4	35.1	32.9
38	44.2	41.6	39.2	36.8	34.6	32.4
40	43.5	41.0	38.6	36.3	34.1	31.9
42	42.8	40.3	38.0	35.7	33.5	31.5
44	42.1	39.7	37.3	35.1	33.0	31.0

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	32.0	34.6	38.3	42.6	47.7	53.9
12	32.2	35.1	38.9	43.3	48.6	54.8
14	32.5	35.6	39.5	44.1	49.4	55.7
16	32.6	35.9	39.9	44.6	50.0	56.3
18	32.7	36.1	40.1	44.8	50.3	56.6
20	32.8	36.3	40.4	45.1	50.6	57.0
22	33.0	36.5	40.6	45.4	50.9	57.3
24	33.2	36.8	40.9	45.7	51.2	57.7
26	33.4	37.0	41.2	46.0	51.6	58.1
28	33.6	37.3	41.5	46.3	51.9	58.4
30	34.1	37.8	42.0	47.0	52.7	59.3
32	34.8	38.5	42.8	47.9	53.7	60.5
34	35.4	39.2	43.6	48.8	54.8	61.8
36	36.1	40.0	44.5	49.8	55.9	63.1
38	36.7	40.7	45.4	50.7	57.1	64.4
40	37.4	41.5	46.3	51.8	58.3	65.9
42	38.1	42.4	47.2	52.9	59.6	67.5
44	38.8	43.3	48.3	54.1	61.0	69.3

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 30	35	40	45	50	55	60	65	70
32	865	1005	1145	1285	1425	1565	1700	1835	1970
34	955	1120	1280	1445	1610	1770	1930	2090	2250
36	1050	1235	1425	1610	1795	1980	2170	2355	2540
38	1155	1365	1575	1785	1995	2205	2420		
40	1265	1500	1735	1965	2200	2440			
42	1385	1645	1900	2160	2425				
44	1510	1795	2080	2370					
46	1640	1955	2270	2590					
48	1780	2130	2475						

TABLE 54M. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-30 SERIES)
JT8D-9 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	49.0	48.9	46.1	43.3	40.7	38.2
12	49.0	48.4	45.6	42.9	40.3	37.8
14	49.0	47.9	45.1	42.4	39.8	37.3
16	49.0	47.6	44.8	42.2	39.6	37.1
18	49.0	47.6	44.8	42.1	39.6	37.1
20	49.0	47.6	44.8	42.1	39.6	37.1
22	49.0	47.6	44.8	42.1	39.6	37.1
24	49.0	47.6	44.8	42.1	39.6	37.1
26	49.0	47.6	44.8	42.1	39.6	37.1
28	49.0	47.6	44.8	42.1	39.6	37.1
30	49.0	47.0	44.3	41.6	39.1	36.7
32	49.0	46.4	43.6	41.0	38.5	36.2
34	48.5	45.7	43.0	40.4	38.0	35.7
36	47.8	45.1	42.4	39.9	37.4	35.1
38	47.1	44.4	41.8	39.2	36.9	34.6
40	46.4	43.7	41.1	38.6	36.3	34.1
42	45.6	43.0	40.4	38.0	35.7	33.5
44	44.9	42.3	39.8	37.4	35.1	33.0

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	37.5	40.4	44.5	49.6	55.6	62.2
12	37.8	41.0	45.2	50.4	56.4	63.2
14	38.0	41.6	46.0	51.2	57.3	64.2
16	38.2	42.0	46.5	51.8	57.9	64.9
18	38.4	42.2	46.7	52.1	58.3	65.3
20	38.6	42.4	47.0	52.5	58.7	65.8
22	38.7	42.7	47.4	52.8	59.1	66.2
24	38.9	42.9	47.7	53.2	59.5	66.6
26	39.0	43.2	48.0	53.5	59.8	67.1
28	39.1	43.6	48.4	53.9	60.2	67.5
30	39.8	44.2	49.1	54.7	61.2	68.8
32	40.6	44.9	49.9	55.7	62.4	70.1
34	41.3	45.7	50.8	56.7	63.6	71.6
36	42.0	46.5	51.7	57.9	64.9	73.0
38	42.7	47.3	52.7	59.0	66.3	74.5
40	43.5	48.2	53.8	60.3	67.7	76.1
42	44.3	49.1	54.9	61.5	69.1	77.8
44	45.2	50.1	56.0	62.8	70.7	79.6

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 35	40	45	50	55	60	65	70	75	80
32	925	1045	1170	1295	1425	1550	1680	1805	1930	2050
34	1020	1160	1305	1445	1590	1735	1880	2025	2170	2310
36	1125	1285	1445	1610	1775	1940	2110	2270	2435	2595
38	1235	1415	1600	1785	1975	2165	2355	2545	2730	2915
40	1350	1555	1760	1975	2190	2405	2620	2840		
42	1475	1700	1935	2170	2415	2660	2910			
44	1600	1850	2110	2380	2655	2930				
46	1735	2010	2295	2595	2905					
48	1875	2175	2490	2820						
50	2025	2345	2685							

TABLE 55M. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-30 SERIES)
JT8D-9 ENGINE, 5° FLAPS, 5% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	49.0	49.0	46.9	44.1	41.5	39.0
12	49.0	49.0	46.4	43.7	41.0	38.6
14	49.0	48.8	45.9	43.2	40.6	38.1
16	49.0	48.5	45.6	42.9	40.3	37.9
18	49.0	48.5	45.6	42.9	40.3	37.9
20	49.0	48.5	45.6	42.9	40.3	37.9
22	49.0	48.5	45.6	42.9	40.3	37.9
24	49.0	48.5	45.6	42.9	40.3	37.9
26	49.0	48.5	45.6	42.9	40.3	37.9
28	49.0	48.5	45.6	42.9	40.3	37.9
30	49.0	47.8	45.1	42.4	39.8	37.5
32	49.0	47.1	44.4	41.8	39.3	36.9
34	49.0	46.5	43.8	41.2	38.7	36.4
36	48.6	45.8	43.1	40.6	38.1	35.8
38	47.9	45.1	42.5	40.0	37.6	35.3
40	47.2	44.4	41.8	39.3	37.0	34.7
42	46.4	43.7	41.1	38.7	36.4	34.1
44	45.7	43.0	40.5	38.1	35.8	33.6

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	44.1	47.5	52.7	58.8	66.1	74.8
12	44.3	48.2	53.5	59.8	67.3	76.2
14	44.6	48.9	54.3	60.8	68.5	77.6
16	44.9	49.4	54.9	61.5	69.4	78.6
18	45.1	49.8	55.3	62.0	69.8	79.1
20	45.3	50.1	55.7	62.4	70.3	79.6
22	45.6	50.4	56.1	62.8	70.8	80.1
24	45.9	50.7	56.5	63.3	71.2	80.6
26	46.2	51.0	56.8	63.7	71.7	81.1
28	46.5	51.3	57.2	64.1	72.3	81.6
30	47.0	51.9	57.9	65.0	73.3	82.8
32	47.6	52.8	59.0	66.3	74.8	84.5
34	48.4	53.8	60.2	67.7	76.3	86.4
36	49.3	54.9	61.5	69.1	78.0	88.3
38	50.2	56.0	62.8	70.6	79.7	90.3
40	51.3	57.2	64.1	72.2	81.5	92.3
42	52.3	58.4	65.6	73.8	83.4	94.4
44	53.4	59.7	67.1	75.6	85.4	96.6

RUNWAY LENGTH (METERS)

WEIGHT	REFERENCE FACTOR "R"						
1000 KG	40	50	60	70	80	90	100
32	985	1220	1450	1680	1905	2125	2345
34	1095	1355	1620	1880	2140	2400	2660
36	1205	1505	1800	2100	2400	2700	3000
38	1320	1660	1995	2335	2675	3020	3370
40	1435	1825	2205	2590	2970	3360	
42	1555	2000	2430	2855	3275		
44	1685	2185	2665	3130	3595		
46	1825	2385	2915	3420			
48	1975	2600	3175				
50	2140	2830	3450				

TABLE 56M. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-30 SERIES)
JT8D-9 ENGINE, 0° FLAPS, 6% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	49.0	49.0	47.7	45.0	42.3	39.7
12	49.0	49.0	47.2	44.5	41.8	39.2
14	49.0	49.0	46.7	44.0	41.3	38.8
16	49.0	49.0	46.5	43.7	41.1	38.6
18	49.0	49.0	46.5	43.7	41.1	38.6
20	49.0	49.0	46.4	43.7	41.0	38.5
22	49.0	49.0	46.4	43.7	41.0	38.5
24	49.0	49.0	46.4	43.7	41.0	38.5
26	49.0	49.0	46.4	43.7	41.0	38.5
28	49.0	49.0	46.4	43.6	41.0	38.5
30	49.0	48.7	45.9	43.1	40.5	38.0
32	49.0	48.0	45.2	42.5	40.0	37.5
34	49.0	47.3	44.5	41.9	39.4	37.0
36	48.6	46.6	43.9	41.3	38.8	36.4
38	48.0	45.9	43.2	40.6	38.2	35.9
40	47.3	45.2	42.5	40.0	37.6	35.3
42	46.7	44.5	41.8	39.4	37.0	34.7
44	46.0	43.7	41.2	38.7	36.4	34.2

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	47.8	51.8	57.5	64.6	73.0	82.1
12	48.2	52.6	58.5	65.7	74.2	83.7
14	48.5	53.3	59.5	66.8	75.4	85.2
16	48.8	53.9	60.1	67.6	76.3	86.2
18	49.0	54.2	60.5	68.1	76.8	86.8
20	49.2	54.5	60.9	68.5	77.4	87.4
22	49.5	54.8	61.3	69.0	77.9	88.0
24	49.8	55.2	61.7	69.4	78.4	88.6
26	50.2	55.6	62.2	69.9	78.9	89.2
28	50.5	56.0	62.6	70.4	79.4	89.8
30	51.2	56.8	63.5	71.4	80.6	91.2
32	52.1	57.8	64.7	72.9	82.4	93.3
34	53.0	58.9	66.0	74.4	84.2	95.3
36	54.0	60.1	67.4	76.0	86.0	97.3
38	55.0	61.3	68.9	77.7	87.9	99.5
40	56.0	62.6	70.4	79.5	89.9	101.7
42	57.1	64.0	72.0	81.3	92.0	104.1
44	58.3	65.4	73.6	83.2	94.2	106.7

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 40	50	60	70	80	90	100	110
32	980	1215	1450	1675	1900	2125	2345	2560
34	1090	1355	1620	1880	2140	2400	2660	2925
36	1205	1505	1805	2100	2395	2690	2990	3295
38	1330	1665	1995	2330	2665	3000	3335	3675
40	1460	1830	2200	2575	2955	3330	3705	
42	1600	2005	2420	2845	3270	3690		
44	1745	2185	2650	3130	3610			
46	1900	2380	2900	3435	3980			
48	2060	2585	3160	3770				
50	2230	2800	3440					

TABLE 57M. AIRCRAFT PERFORMANCE, LANDING (DC-9-50 SERIES)
JT8D-17 ENGINE, FULL FLAPS

MAXIMUM ALLOWABLE LANDING WEIGHT (1000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	49.9	49.9	49.9	48.7	45.7	43.0
12	49.9	49.9	49.9	48.7	45.7	43.0
14	49.9	49.9	49.9	48.7	45.7	43.0
16	49.9	49.9	49.9	48.4	45.4	42.7
18	49.9	49.9	49.9	48.0	45.1	42.4
20	49.9	49.9	49.9	47.7	44.7	42.1
22	49.9	49.9	49.9	47.4	44.4	41.8
24	49.9	49.9	49.9	47.0	44.1	41.5
26	49.9	49.9	49.6	46.6	43.7	41.2
28	49.9	49.9	49.2	46.2	43.4	40.8
30	49.9	49.9	48.4	45.5	42.8	40.2
32	49.9	49.9	47.6	44.8	42.1	39.6
34	49.9	49.7	46.8	44.0	41.4	38.8
36	49.9	48.9	46.1	43.3	40.7	38.1
38	49.9	48.2	45.3	42.6	40.0	37.3
40	49.9	47.5	44.7	42.0	39.3	36.5
42	49.7	46.8	44.0	41.3	38.5	35.6
44	49.0	46.2	43.5	40.7	37.8	34.7

RUNWAY LENGTH (METERS)

WEIGHT	AIRPORT ELEVATION (METERS)					
1000 KG	0	500	1000	1500	2000	2500
30	1125	1175	1225	1270	1320	1380
32	1180	1235	1285	1340	1395	1455
34	1240	1295	1350	1405	1465	1530
36	1300	1355	1410	1470	1535	1605
38	1360	1415	1475	1540	1610	1680
40	1420	1475	1535	1605	1680	1755
42	1480	1535	1600	1670	1750	1825
44	1540	1600	1665	1740	1820	1900
46	1600	1660	1730	1805	1885	1970
48	1660	1725	1795	1875	1955	2045
50	1720	1790	1860	1940	2025	2115

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	
MAXIMUM TAKEOFF WEIGHT	KG	54 886
MAXIMUM LANDING WEIGHT	KG	49 896
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL	KG	33 162 1/ 35 458 2/
AVERAGE FUEL CONSUMPTION	KG/KM	5.36
TYPICAL MAXIMUM PASSENGER LOAD @ 90.7 KG/PASSENGER	KG	12 247
MAXIMUM STRUCTURAL PAYLOAD	KG	15 343

1/ Based on 1.25 hours of reserve fuel.
2/ Based on 2.00 hours of reserve fuel.

TABLE 58M. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-50 SERIES)
JT8D-17 ENGINE, 15° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	51.7	50.1	47.4	44.6	42.0	39.4
12	51.7	50.1	47.4	44.6	42.0	39.4
14	51.7	50.1	47.4	44.6	42.0	39.4
16	51.7	50.1	47.4	44.6	42.0	39.4
18	51.7	50.1	47.4	44.6	42.0	39.4
20	51.7	50.1	47.2	44.4	41.8	39.2
22	51.7	49.7	46.8	44.1	41.5	39.0
24	51.7	49.4	46.5	43.8	41.2	38.7
26	51.7	49.1	46.2	43.5	40.9	38.4
28	51.7	48.8	45.9	43.3	40.6	38.1
30	50.8	48.2	45.5	42.8	40.2	37.7
32	50.2	47.5	44.8	42.2	39.6	37.2
34	49.5	46.8	44.2	41.6	39.1	36.7
36	48.9	46.2	43.5	41.0	38.5	36.2
38	48.3	45.5	42.9	40.4	38.0	35.7
40	47.7	44.9	42.3	39.8	37.4	35.2
42	47.0	44.2	41.6	39.2	36.8	34.7
44	46.4	43.6	41.0	38.5	36.3	34.2

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	40.5	44.1	48.6	54.2	61.1	69.6
12	40.7	44.4	49.0	54.6	61.6	70.1
14	40.9	44.7	49.3	55.1	62.1	70.5
16	41.2	44.9	49.7	55.5	62.6	70.9
18	41.4	45.2	50.0	56.0	63.1	71.4
20	41.7	45.5	50.5	56.6	63.8	72.1
22	42.0	45.9	51.1	57.3	64.7	73.2
24	42.3	46.3	51.6	58.0	65.6	74.2
26	42.6	46.7	52.2	58.8	66.5	75.2
28	42.9	47.1	52.7	59.5	67.4	76.2
30	43.4	47.9	53.6	60.6	68.7	77.8
32	44.2	48.9	54.8	61.9	70.3	79.7
34	45.0	49.9	56.0	63.3	71.9	81.7
36	45.3	50.9	57.1	64.6	73.5	83.7
38	46.5	51.9	58.3	66.0	75.1	85.7
40	47.3	52.9	59.5	67.3	76.7	87.7
42	48.1	53.9	60.7	68.7	78.3	89.7
44	48.9	54.9	61.9	70.0	79.9	91.7

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 40	50	60	70	80	90	100
32	825	1010	1180	1345	1505	1670	1835
34	910	1115	1305	1495	1685	1835	2095
36	995	1225	1445	1665	1885	2115	2360
38	1085	1340	1595	1845	2100	2360	2635
40	1180	1470	1755	2045	2335	2625	2920
42	1280	1605	1935	2265	2595	2915	3230
44	1390	1750	2125	2505	2875	3230	3560
46	1505	1905	2330	2765	3185	3575	
48	1625	2070	2555	3055	3530		
50	1760	2255	2800	3365			
52	1905	2445	3065	3705			
54	2055	2655	3350				
56	2225	2880	3655				

TABLE 59M. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-50 SERIES)
JT8D-17 ENGINE, 15° FLAPS, 2% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	52.7	50.5	47.8	45.1	42.4	39.8
12	52.2	50.5	47.8	45.1	42.4	39.8
14	52.2	50.5	47.8	45.1	42.4	39.8
16	52.2	50.5	47.8	45.1	42.4	39.8
18	52.2	50.5	47.8	45.1	42.4	39.8
20	52.2	50.5	47.6	44.9	42.3	39.6
22	52.2	50.1	47.3	44.6	42.0	39.3
24	52.2	49.9	47.0	44.3	41.7	39.0
26	52.2	49.5	46.7	44.0	41.4	38.8
28	52.2	49.2	46.4	43.7	41.1	38.5
30	51.8	48.8	45.9	43.2	40.6	38.1
32	51.1	48.1	45.3	42.6	40.0	37.6
34	50.4	47.4	44.6	42.0	39.5	37.0
36	49.7	46.7	44.0	41.4	38.9	36.5
38	48.9	46.0	43.3	40.8	38.3	36.0
40	48.2	45.4	42.7	40.1	37.7	35.5
42	47.5	44.7	42.0	39.5	37.2	34.9
44	46.8	44.0	41.4	38.9	36.6	34.4

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	42.0	45.9	50.6	56.5	64.0	73.3
12	42.2	46.3	51.0	56.9	64.4	74.0
14	42.4	46.7	51.5	57.4	64.8	74.2
16	42.7	47.1	52.0	57.9	65.2	74.4
18	42.9	47.5	52.5	58.4	65.6	74.6
20	43.2	47.8	53.0	59.0	66.3	75.2
22	43.5	48.2	53.5	59.7	67.2	76.1
24	43.8	48.5	54.0	60.5	68.1	77.0
26	44.1	48.8	54.5	61.3	69.0	77.8
28	44.4	49.2	55.1	62.0	69.9	78.7
30	45.0	49.9	56.0	63.1	71.3	80.4
32	45.8	51.0	57.2	64.5	72.9	82.7
34	46.7	52.0	58.4	65.8	74.6	85.0
36	47.5	53.1	59.6	67.2	76.3	87.3
38	48.4	54.2	60.7	68.5	78.0	89.7
40	49.2	55.2	61.9	69.9	79.7	92.0
42	50.0	56.3	63.1	71.3	81.4	94.3
44	50.9	57.4	64.3	72.6	83.1	96.6

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 40	50	60	70	80	90	100
32	860	1005	1175	1360	1530	1680	1785
34	925	1110	1305	1505	1700	1870	2010
36	1005	1220	1445	1670	1890	2095	2280
38	1090	1340	1595	1855	2105	2350	2575
40	1185	1465	1760	2055	2345	2630	2895
42	1290	1600	1935	2270	2605	2930	3230
44	1400	1750	2120	2505	2885	3245	3570
46	1520	1905	2325	2760	3180	3575	
48	1650	2070	2545	3030	3495		
50	1785	2250	2780	3315	3820		
52	1925	2445	3035	3625			
54	2075	2655	3305				
56	2230	2875	3600				

TABLE 60M. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-50 SERIES)
JT8D-17 ENGINE, 5° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	54.9	53.6	50.7	47.7	44.8	42.1
12	54.9	53.6	50.7	47.7	44.8	42.1
14	54.9	53.6	50.7	47.7	44.8	42.1
16	54.9	53.6	50.7	47.7	44.8	42.1
18	54.9	53.6	50.7	47.7	44.8	42.1
20	54.9	53.6	50.5	47.5	44.7	41.9
22	54.9	53.3	50.2	47.2	44.3	41.7
24	54.9	52.9	49.8	46.8	44.0	41.4
26	54.9	52.5	49.4	46.5	43.7	41.1
28	54.9	52.2	49.1	46.2	43.4	40.8
30	54.8	51.6	48.6	45.7	43.0	40.4
32	54.0	50.9	48.0	45.1	42.4	39.8
34	53.3	50.2	47.3	44.5	41.8	39.2
36	52.5	49.5	46.6	43.9	41.2	38.6
38	51.6	48.7	45.9	43.2	40.6	38.0
40	50.8	47.9	45.1	42.5	39.9	37.4
42	49.9	47.0	44.3	41.7	39.2	36.7
44	48.9	46.1	43.5	40.9	38.5	36.1

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	45.5	49.9	55.3	61.7	69.2	78.2
12	45.9	50.2	55.6	62.1	69.7	78.7
14	46.4	50.6	55.9	62.4	70.2	79.3
16	46.8	50.9	56.2	62.8	70.7	79.9
18	47.3	51.2	56.5	63.2	71.2	80.4
20	47.6	51.6	57.0	63.9	72.0	81.2
22	47.8	52.1	57.7	64.7	72.9	82.3
24	48.0	52.5	58.4	65.5	73.8	83.3
26	48.2	53.0	59.1	66.3	74.8	84.3
28	48.4	53.5	59.8	67.2	75.7	85.3
30	49.1	54.3	60.8	68.3	77.1	86.9
32	50.0	55.4	62.0	69.8	78.8	89.0
34	51.0	56.5	63.3	71.2	80.5	91.1
36	51.9	57.7	64.5	72.7	82.2	93.2
38	52.9	58.8	65.8	74.1	83.9	95.3
40	53.9	59.9	67.1	75.6	85.7	97.4
42	54.8	61.0	68.3	77.0	87.4	99.5
44	55.8	62.1	69.6	78.5	89.1	101.6

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 40	50	60	70	80	90	100
32	815	1010	1195	1370	1545	1715	1880
34	895	1115	1320	1525	1720	1915	2110
36	980	1225	1460	1685	1910	2135	2355
38	1075	1345	1605	1865	2120	2370	2625
40	1175	1470	1760	2050	2340	2630	2920
42	1280	1605	1930	2255	2580	2910	3240
44	1395	1745	2105	2470	2845	3220	3595
46	1515	1895	2290	2700	3125	3555	
48	1645	2050	2490	2950	3430		
50	1780	2215	2695	3210	3755		
52	1925	2390	2915	3490			
54	2075	2570	3145	3785			
56	2235	2755	3385				

TABLE 61M. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-50 SERIES)
JT8D-17 ENGINE, 5° FLAPS, 5% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	54.9	54.9	51.8	48.8	45.9	43.1
12	54.9	54.9	51.8	48.8	45.9	43.1
14	54.9	54.9	51.8	48.8	45.9	43.1
16	54.9	54.9	51.8	48.8	45.9	43.1
18	54.9	54.9	51.8	48.8	45.9	43.1
20	54.9	54.6	51.6	48.6	45.7	43.0
22	54.9	54.4	51.3	48.3	45.4	42.7
24	54.9	54.1	50.9	47.9	45.1	42.4
26	54.9	53.8	50.6	47.6	44.8	42.0
28	54.9	53.3	50.2	47.3	44.4	41.7
30	54.9	52.7	49.7	46.8	44.0	41.3
32	54.9	52.1	49.1	46.2	43.4	40.7
34	54.4	51.3	48.4	45.6	42.8	40.1
36	53.6	50.6	47.7	44.9	42.2	39.5
38	52.7	49.8	47.0	44.2	41.5	38.9
40	51.9	49.0	46.2	43.5	40.8	38.2
42	51.0	48.1	45.4	42.7	40.1	37.6
44	50.0	47.2	44.5	41.9	39.4	36.9

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	50.0	54.9	61.0	68.4	77.0	86.8
12	50.5	55.2	61.3	68.7	77.5	87.5
14	50.9	55.5	61.6	69.1	78.0	88.2
16	51.4	55.7	61.8	69.5	78.6	88.8
18	51.8	56.0	62.1	69.9	79.1	89.5
20	52.2	56.5	62.7	70.6	79.9	90.5
22	52.5	57.2	63.6	71.6	81.0	91.7
24	52.8	57.9	64.5	72.6	82.1	92.9
26	53.1	58.5	65.4	73.6	83.2	94.2
28	53.3	59.2	66.3	74.6	84.3	95.4
30	54.1	60.2	67.5	76.0	85.8	97.2
32	55.2	61.5	68.9	77.6	87.8	99.4
34	56.3	62.7	70.3	79.3	89.7	101.7
36	57.4	63.9	71.7	80.9	91.6	104.0
38	58.5	65.2	73.2	82.6	93.6	106.2
40	59.6	66.4	74.6	84.2	95.5	108.5
42	60.8	67.7	76.0	85.9	97.4	110.8
44	61.9	68.9	77.4	87.5	99.4	113.0

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120
32	1015	1200	1375	1550	1720	1890	2060	2245
34	1115	1325	1530	1725	1920	2115	2320	2530
36	1220	1460	1690	1915	2140	2365	2595	2840
38	1340	1605	1865	2120	2375	2630	2895	3165
40	1470	1760	2055	2340	2630	2920	3215	3510
42	1605	1930	2255	2580	2905	3230	3550	
44	1750	2105	2465	2835	3200	3560		
46	1905	2290	2695	3105	3515			
48	2065	2485	2935	3395	3850			
50	2235	2695	3190	3705				
52	2410	2915	3465					
54	2595	3140	3750					

TABLE 62M. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-50 SERIES)
JT8D-17 ENGINE, 0° FLAPS

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	54.9	54.9	52.5	49.4	46.4	43.7
12	54.9	54.9	52.5	49.4	46.4	43.7
14	54.9	54.9	52.5	49.4	46.4	43.7
16	54.9	54.9	52.5	49.4	46.4	43.7
18	54.9	54.9	52.5	49.4	46.4	43.7
20	54.9	54.9	52.3	49.2	46.2	43.5
22	54.9	54.9	51.9	48.8	45.9	43.2
24	54.9	54.6	51.5	48.5	45.6	42.9
26	54.9	54.3	51.2	48.2	45.3	42.6
28	54.9	54.0	50.9	47.9	45.0	42.3
30	54.9	53.4	50.3	47.4	44.5	41.6
32	54.9	52.6	49.6	46.7	43.8	40.6
34	54.9	51.8	48.9	46.0	43.1	39.8
36	54.3	51.0	48.1	45.4	42.4	39.1
38	53.5	50.3	47.4	44.7	41.8	38.6
40	52.7	49.5	46.7	44.0	41.2	38.2
42	51.9	48.8	46.0	43.3	40.6	38.0
44	51.1	48.1	45.3	42.6	40.1	37.9

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	51.0	54.9	60.8	68.4	77.4	87.2
12	51.2	55.4	61.3	68.9	77.9	87.9
14	51.5	55.8	61.9	69.5	78.4	88.7
16	51.7	56.3	62.4	70.0	79.0	89.4
18	51.9	56.7	62.9	70.5	79.5	90.1
20	52.2	57.3	63.6	71.2	80.4	91.1
22	52.6	57.9	64.3	72.1	81.4	92.3
24	53.0	58.5	65.1	73.0	82.5	93.5
26	53.4	59.0	65.8	73.9	83.5	94.7
28	53.8	59.6	66.6	74.8	84.6	95.9
30	54.6	60.6	67.7	76.2	86.1	97.8
32	55.7	61.8	69.1	77.8	88.1	100.2
34	56.8	63.1	70.5	79.5	90.1	102.6
36	57.9	64.3	72.0	81.1	92.1	105.0
38	59.0	65.5	73.4	82.8	94.1	107.5
40	60.1	66.8	74.8	84.5	96.1	109.9
42	61.3	68.0	76.2	86.1	98.1	112.3
44	62.4	69.2	77.6	87.8	100.1	114.7

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120
32	1000	1190	1370	1550	1720	1890	2055	2220
34	1110	1315	1520	1720	1920	2115	2305	2495
36	1225	1455	1680	1910	2140	2360	2580	2790
38	1345	1600	1860	2120	2375	2630	2880	3120
40	1470	1760	2050	2340	2635	2920	3210	3490
42	1600	1930	2255	2580	2910	3240	3575	3910
44	1740	2110	2470	2835	3205	3585	3975	4385
46	1885	2295	2700	3105	3525	3960	4420	
48	2040	2495	2940	3390	3860	4365		
50	2205	2700	3185	3685	4220			
52	2385	2915	3445	3995				
54	2570	3140	3710	4315				
56	2775	3370	3980					

TABLE 63M. AIRCRAFT PERFORMANCE, TAKEOFF (DC-9-50 SERIES)
JT8D-17 ENGINE, 0° FLAPS, 6% SPEED INCREASE

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	54.9	54.9	53.6	50.4	47.4	44.6
12	54.9	54.9	53.6	50.4	47.4	44.6
14	54.9	54.9	53.6	50.4	47.4	44.6
16	54.9	54.9	53.6	50.4	47.4	44.6
18	54.9	54.9	53.6	50.4	47.4	44.6
20	54.9	54.9	53.4	50.2	47.2	44.4
22	54.9	54.9	53.0	49.8	46.8	44.1
24	54.9	54.9	52.6	49.5	46.5	43.8
26	54.9	54.9	52.3	49.2	46.2	43.4
28	54.9	54.9	52.0	48.9	46.0	43.2
30	54.9	54.5	51.4	48.4	45.4	42.4
32	54.9	53.7	50.6	47.7	44.7	41.5
34	54.9	52.9	49.9	47.0	44.0	40.7
36	54.9	52.1	49.1	46.3	43.4	40.0
38	54.6	51.3	48.4	45.6	42.7	39.4
40	53.8	50.6	47.7	44.9	42.1	39.0
42	53.0	49.8	47.0	44.2	41.5	38.8
44	52.2	49.1	46.2	43.5	41.0	38.6

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	57.5	62.1	68.8	77.5	87.9	100.0
12	57.7	62.5	69.4	78.1	88.6	100.7
14	57.9	63.0	69.9	78.7	89.2	101.4
16	58.2	63.4	70.5	79.3	89.9	102.1
18	58.4	63.8	71.0	79.9	90.5	102.8
20	58.7	64.4	71.8	80.8	91.5	103.9
22	59.1	65.1	72.7	81.9	92.8	105.3
24	59.5	65.9	73.7	83.0	94.0	106.7
26	59.9	66.6	74.6	84.1	95.3	108.2
28	60.3	67.3	75.5	85.2	96.5	109.6
30	61.2	68.4	76.9	86.8	98.3	111.7
32	62.6	69.9	78.6	88.8	100.7	114.5
34	63.9	71.4	80.3	90.7	103.0	117.3
36	65.2	72.9	82.0	92.7	105.3	120.0
38	66.5	74.4	83.7	94.7	107.6	122.8
40	67.8	75.9	85.5	96.7	109.9	125.5
42	69.1	77.5	87.2	98.7	112.2	128.3
44	70.4	79.0	88.9	100.6	114.6	131.1

RUNWAY LENGTH (METERS)

WEIGHT	REFERENCE FACTOR "R"								
1000 KG	50	60	70	80	90	100	110	120	130
32	1025	1205	1380	1555	1725	1895	2065	2230	2405
34	1130	1330	1525	1725	1920	2115	2310	2510	2710
36	1240	1465	1690	1910	2135	2360	2585	2815	3045
38	1355	1610	1865	2115	2375	2630	2885	3145	3405
40	1475	1760	2050	2340	2630	2920	3210	3505	3795
42	1600	1925	2255	2580	2910	3235	3565	3890	4215
44	1730	2100	2470	2840	3205	3575	3940	4305	
46	1870	2285	2700	3110	3520	3930	4340		
48	2025	2485	2940	3395	3850	4305			
50	2190	2690	3195	3695	4200				
52	2365	2910	3460	4010					
54	2555	3145	3740	4335					
56	2760	3390	4025						

* TABLE 77M. AIRCRAFT PERFORMANCE, LANDING (BOEING 767-300 ER FLAPS 25)

MAXIMUM ALLOWABLE LANDING WEIGHT (1 000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	145.1	145.1	145.1	145.1	145.1	145.1
12	145.1	145.1	145.1	145.1	145.1	145.1
14	145.1	145.1	145.1	145.1	145.1	145.1
16	145.1	145.1	145.1	145.1	145.1	145.1
18	145.1	145.1	145.1	145.1	145.1	145.1
20	145.1	145.1	145.1	145.1	145.1	145.1
22	145.1	145.1	145.1	145.1	145.1	145.1
24	145.1	145.1	145.1	145.1	145.1	145.1
26	145.1	145.1	145.1	145.1	145.1	145.1
28	145.1	145.1	145.1	145.1	145.1	145.1
30	145.1	145.1	145.1	145.1	145.1	145.1
32	145.1	145.1	145.1	145.1	145.1	145.1
34	145.1	145.1	145.1	145.1	145.1	145.1
36	145.1	145.1	145.1	145.1	145.1	145.1
38	145.1	145.1	145.1	145.1	145.1	144.7
40	145.1	145.1	145.1	145.1	145.1	
42	145.1	145.1	145.1	145.1	145.1	
44	145.1	145.1	145.1	145.1	145.1	

RUNWAY LENGTH (METERS)

WEIGHT	AIRPORT ELEVATION (METERS)					
1000 KG	0	500	1000	1500	2000	2500
100	1429	1486	1548	1613	1678	1740
105	1453	1511	1574	1640	1708	1774
110	1477	1537	1600	1667	1737	1806
115	1502	1562	1627	1695	1765	1838
120	1526	1588	1653	1722	1794	1870
125	1551	1614	1680	1750	1823	1901
130	1575	1640	1707	1777	1852	1932
135	1600	1666	1734	1805	1881	1962
140	1625	1692	1761	1833	1909	1992
145	1650	1718	1787	1860	1938	2022

AIRPLANE CHARACTERISTICS	UNIT OF MEASURE	MODEL 767-300 ER TYPICAL ENGINE/WEIGHT CONFIGURATIONS			
MAXIMUM DESIGN TAKEOFF WEIGHT	KILOGRAM	172,350	175,550	181,450	184,600
MAXIMUM DESIGN LANDING WEIGHT	KILOGRAM	136,100	136,100	145,150	145,150
TYPICAL OPERATING EMPTY WEIGHT PLUS RESERVE FUEL 1/	KILOGRAM	93,028	93,028	93,528	95,078
AVERAGE FUEL CONSUMPTION 2/	KG/KM	2.4	2.4	2.4	2.4
TYPICAL MAXIMUM PASSENGER LOAD @ 90.7 KG/PASSENGER	KILOGRAM	19,954 MIXED (24 FC + 46 BUS + 150 TOURIST) 26,303 ALL-ECONOMY (290 TOURIST)			
MAXIMUM STRUCTURAL PAYLOAD	KILOGRAM	38,150	38,150	42,150	43,800

1/ Based on 1.25 hours of reserve fuel.
2/ Average of flight manual and U.S. Department of Transportation "Aircraft Operating Cost and Performance Report" Vol. XIX, September 1985.

* TABLE 78M. AIRCRAFT PERFORMANCE, LANDING (BOEING 767-300 ER FLAPS 30)

MAXIMUM ALLOWABLE LANDING WEIGHT (1 000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
° C	0	500	1000	1500	2000	2500
10	145.1	145.1	145.1	145.1	145.1	145.1
12	145.1	145.1	145.1	145.1	145.1	145.1
14	145.1	145.1	145.1	145.1	145.1	145.1
16	145.1	145.1	145.1	145.1	145.1	145.1
18	145.1	145.1	145.1	145.1	145.1	145.1
20	145.1	145.1	145.1	145.1	145.1	145.1
22	145.1	145.1	145.1	145.1	145.1	145.1
24	145.1	145.1	145.1	145.1	145.1	145.1
26	145.1	145.1	145.1	145.1	145.1	145.1
28	145.1	145.1	145.1	145.1	145.1	145.1
30	145.1	145.1	145.1	145.1	145.1	145.1
32	145.1	145.1	145.1	145.1	145.1	145.1
34	145.1	145.1	145.1	145.1	145.1	142.9
36	145.1	145.1	145.1	145.1	145.1	138.8
38	145.1	145.1	145.1	145.1	145.1	137.4
40	145.1	145.1	145.1	145.1	144.7	134.7
42	145.1	145.1	145.1	145.1	141.5	
44	145.1	145.1	145.1	145.1		

RUNWAY LENGTH (METERS)

WEIGHT	AIRPORT ELEVATION (METERS)					
1000 KG	0	500	1000	1500	2000	2500
100	1333	1377	1432	1493	1557	1621
105	1358	1403	1459	1522	1588	1652
110	1382	1429	1487	1551	1618	1682
115	1407	1455	1514	1580	1647	1711
120	1431	1481	1542	1609	1677	1741
125	1455	1507	1569	1637	1706	1771
130	1480	1533	1596	1665	1735	1801
135	1504	1559	1623	1693	1764	1831
140	1528	1585	1650	1721	1793	1861
145	1553	1610	1677	1749	1822	1892

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* TABLE 79M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 767-300 ER FLAPS 5)

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1 000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	185.1	185.1	179.4	171.7	164.1	156.6
12	185.1	185.1	179.4	171.7	164.1	156.6
14	185.1	185.1	179.4	171.7	164.1	155.6
16	185.1	185.1	179.4	171.7	164.1	154.4
18	185.1	185.1	179.4	171.7	163.1	153.0
20	185.1	185.1	179.4	171.7	161.3	151.4
22	185.1	185.1	179.4	169.7	159.4	149.7
24	185.1	185.1	178.8	167.7	157.3	147.9
26	185.1	185.1	176.5	165.5	155.2	145.9
28	185.1	185.1	174.1	163.2	153.0	143.9
30	185.1	182.6	171.7	160.9	150.8	141.7
32	185.1	180.0	169.2	158.5	148.4	139.4
34	185.1	177.3	166.6	156.0	146.0	137.1
36	185.1	174.6	164.0	153.5	143.6	134.7
38	182.3	171.9	161.3	150.9	141.1	132.2
40	179.4	169.0	158.5	148.3	138.6	129.7
42	176.4	166.0	155.7	145.6	136.0	127.2
44	173.1	162.9	152.8	142.9	133.4	124.7

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	53.1	58.1	63.6	69.9	77.5	86.6
12	53.4	58.1	63.8	70.5	78.3	87.1
14	53.6	58.2	64.1	71.1	79.2	88.0
16	53.9	58.4	64.5	71.9	80.2	89.0
18	54.1	58.7	65.1	72.8	81.3	90.3
20	54.3	59.1	65.7	73.7	82.6	91.9
22	54.6	59.7	66.5	74.8	84.0	93.6
24	55.0	60.3	67.4	76.0	85.5	95.6
26	55.4	61.1	68.5	77.3	87.1	97.7
28	55.9	62.0	69.6	78.7	88.9	100.1
30	56.6	63.0	70.9	80.2	90.8	102.7
32	57.3	64.2	72.3	81.9	92.9	105.5
34	58.3	65.5	73.9	83.7	95.1	108.5
36	59.4	66.9	75.5	85.6	97.5	111.6
38	60.6	68.5	77.3	87.6	100.0	115.0
40	62.1	70.3	79.3	89.8	102.6	118.5
42	63.8	72.2	81.3	92.1	105.5	122.2
44	65.8	74.2	83.5	94.6	108.4	126.0

RUNWAY LENGTH (METERS)

WEIGHT	REFERENCE FACTOR "R"								
1000 KG	50	60	70	80	90	100	110	120	130
100	860	1010	1161	1310	1454	1591	1720	1837	1948
105	928	1092	1255	1417	1577	1730	1877	2018	2151
110	1000	1178	1356	1535	1710	1881	2048	2210	2369
115	1074	1269	1466	1661	1853	2043	2230	2415	2599
120	1154	1369	1582	1794	2005	2215	2424	2632	2841
125	1241	1473	1705	1936	2168	2399	2631	2862	3094
130	1330	1581	1833	2087	2341	2596	2850	3105	3361
135	1422	1695	1972	2250	2528	2806	3084	3361	3639
140	1517	1816	2120	2424	2728	3031	3332	3631	3929
145	1616	1946	2277	2609	2940	3268	3593	3914	4229
150	1724	2083	2444	2806	3165	3520	3870	4211	
155	1840	2229	2621	3014	3403	3786	4160		
160	1963	2384	2809	3234	3654	4067	4466		
165	2093	2547	3006	3466	3920	4362			
170	2231	2720	3215	3711	4200				
180	2532	3094	3668	4241					
185	2696	3297	3912						

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* TABLE 80M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 767-300 ER FLAPS 15)

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1 000 KG)

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	185.1	178.3	170.9	163.6	156.5	149.3
12	185.1	178.3	170.9	163.6	156.5	149.3
14	185.1	178.3	170.9	163.6	156.5	148.8
16	185.1	178.3	170.9	163.6	156.5	147.8
18	185.1	178.3	170.9	163.6	155.7	146.5
20	185.1	178.3	170.9	163.6	153.9	145.1
22	185.1	178.3	170.9	162.0	152.1	143.5
24	185.1	178.3	170.8	160.0	150.1	141.7
26	185.1	178.3	168.5	157.9	148.2	139.9
28	185.1	176.9	166.2	155.7	146.1	137.9
30	184.7	174.3	163.8	153.5	144.0	135.8
32	182.1	171.7	161.3	151.2	141.9	133.6
34	179.6	169.1	158.8	148.9	139.6	131.3
36	177.0	166.5	156.3	146.5	137.4	129.0
38	174.3	163.9	153.8	144.1	135.0	126.6
40	171.5	161.2	151.2	141.6	132.6	124.2
42	168.6	158.6	148.7	139.1	130.1	121.8
44	165.4	155.9	146.2	136.6	127.5	119.4

REFERENCE FACTOR "R"

TEMP °C	AIRPORT ELEVATION (METERS) 0	500	1000	1500	2000	2500
10	50.1	54.9	59.7	65.2	71.9	80.3
12	50.2	54.8	59.7	65.4	72.5	81.3
14	50.4	54.8	59.8	65.8	73.2	82.3
16	50.5	54.9	60.1	66.3	74.0	83.4
18	50.7	55.1	60.5	67.0	75.0	84.6
20	50.9	55.4	61.0	67.9	76.1	85.9
22	51.2	55.8	61.7	68.9	77.4	87.3
24	51.5	56.4	62.5	70.0	78.8	88.9
26	52.0	57.1	63.5	71.2	80.3	90.7
28	52.5	57.8	64.6	72.6	82.0	92.7
30	53.1	58.8	65.8	74.1	83.8	94.9
32	53.8	59.8	67.1	75.7	85.8	97.4
34	54.7	61.0	68.6	77.5	88.0	100.3
36	55.7	62.4	70.1	79.3	90.3	103.4
38	56.9	63.9	71.8	81.2	92.7	106.9
40	58.2	65.5	73.5	83.2	95.4	110.8
42	59.7	67.3	75.4	85.3	98.1	115.1
44	61.5	69.2	77.4	87.5	101.1	119.8

RUNWAY LENGTH (METERS)

WEIGHT 1000 KG	REFERENCE FACTOR "R" 50	60	70	80	90	100	110	120
100	876	1035	1174	1300	1439	1581	1714	1837
105	942	1109	1259	1410	1570	1727	1880	2027
110	1011	1190	1354	1532	1707	1880	2051	2221
115	1083	1278	1467	1660	1851	2041	2231	2421
120	1158	1372	1584	1795	2004	2211	2420	2632
125	1238	1474	1708	1937	2164	2391	2620	2855
130	1321	1582	1837	2087	2334	2583	2835	3094
135	1411	1698	1974	2244	2514	2787	3064	3356
140	1507	1822	2127	2425	2720	3015	3316	3629
145	1607	1952	2288	2616	2937	3256	3577	3931
150	1712	2091	2459	2817	3165	3504	3863	
155	1826	2237	2639	3028	3402	3759		
160	1948	2392	2827	3248	3647	4035		
165	2078	2554	3024	3477	3899			
170	2216	2724	3230	3714				
175	2364	2903	3444	3960				
180	2521	3091	3667					
185	2688	3287	3898					

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* TABLE 81M. AIRCRAFT PERFORMANCE, TAKEOFF (BOEING 767-300 ER FLAPS 20)

MAXIMUM ALLOWABLE TAKEOFF WEIGHT (1 000 KG)

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	175.5	169.3	162.5	155.5	148.4	141.6
12	175.5	169.3	162.5	155.5	148.4	141.6
14	175.5	169.3	162.5	155.5	148.4	141.3
16	175.5	169.3	162.5	155.5	148.4	140.2
18	175.5	169.3	162.5	155.5	147.7	138.9
20	175.5	169.3	162.5	155.5	146.2	137.5
22	175.5	169.3	162.5	153.9	144.5	136.0
24	175.5	169.3	162.2	152.0	142.8	134.3
26	175.5	169.3	160.0	150.0	140.9	132.5
28	175.5	168.3	157.8	148.0	138.9	130.6
30	175.5	165.7	155.5	145.9	136.9	128.6
32	173.5	163.2	153.2	143.7	134.7	126.5
34	170.6	160.7	150.9	141.5	132.6	124.4
36	167.9	158.2	148.6	139.2	130.3	122.2
38	165.3	155.7	146.2	136.9	128.1	119.9
40	162.6	153.2	143.8	134.5	125.8	117.7
42	160.0	150.7	141.3	132.2	123.5	115.3
44	157.3	148.0	138.8	129.8	121.2	113.0

REFERENCE FACTOR "R"

TEMP	AIRPORT ELEVATION (METERS)					
°C	0	500	1000	1500	2000	2500
10	45.0	48.7	53.5	59.3	65.8	72.9
12	45.1	48.8	53.6	59.5	66.2	73.8
14	45.3	49.0	53.8	59.8	66.8	74.8
16	45.5	49.3	54.2	60.3	67.5	75.9
18	45.7	49.6	54.6	60.9	68.4	77.1
20	45.9	49.9	55.2	61.7	69.4	78.4
22	46.1	50.4	55.9	62.7	70.6	79.7
24	46.4	50.9	56.7	63.8	71.9	81.2
26	46.8	51.5	57.6	65.0	73.4	82.8
28	47.2	52.2	58.6	66.3	75.0	84.5
30	47.7	53.0	59.7	67.7	76.7	86.4
32	48.4	53.9	61.0	69.2	78.4	88.4
34	49.1	54.9	62.3	70.8	80.3	90.6
36	50.0	56.1	63.6	72.5	82.3	92.9
38	51.0	57.3	65.1	74.2	84.4	95.4
40	52.2	58.7	66.7	76.0	86.5	98.1
42	53.5	60.2	68.3	77.8	88.7	101.0
44	55.0	61.9	70.0	79.6	90.9	104.1

RUNWAY LENGTH (METERS)

WEIGHT	REFERENCE FACTOR "R"						
1000 KG	40	50	60	70	80	90	100
100	658	820	979	1137	1284	1432	1577
105	724	896	1071	1238	1390	1543	1693
110	790	979	1165	1343	1508	1672	1837
115	857	1063	1262	1453	1635	1819	2005
120	926	1147	1362	1570	1771	1980	2193
125	994	1233	1467	1695	1919	2154	2398
130	1062	1321	1576	1826	2077	2340	2614
135	1134	1414	1692	1967	2244	2534	2839
140	1209	1514	1814	2117	2420	2736	3067
145	1288	1619	1946	2276	2605	2943	3295
150	1370	1728	2084	2446	2805	3153	
155	1458	1843	2231	2628	3016	3385	
160	1550	1964	2390	2822	3240		
165	1650	2092	2560	3029			
170	1765	2235	2742	3250			
175	1891	2389	2937				
180	2029	2556	3146				
185	2181	2736	3370				

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*U.S. G.P.O.:1993-343-273:80139